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ARTICLE I.—*Description of a febrile disease which lately prevailed epidemically among the Negroes of the Rice plantations, in the vicinity of the city of Savannah. By* WILLIAM R. WARING, M. D. *of Savannah, Georgia.*

THE interesting disease which forms the subject of the present essay, appeared, as I am told, about the middle of the last winter, at the plantation of Robert Smith, Esq. on the Carolina shore of the Savannah. A short time after, it commenced its ravages on the opposite Georgia margin of the river, at a place belonging to John P. Williamson; towards the last of March it attacked the negroes of John Potter, at Coleraine; in April, those of the late Robert Mackay, and in March or April, a few cases occurred at the plantation of Judge Wayne, but without extending further. These plantations occupy a very small compass of country, and are within short distances of each other; the grounds of which they are constituted, are chiefly marshes or swamps, rescued from the river by dykes, and lie below the level of the flood tides. In some instances there are contiguous lands, which have a greater elevation; and these are selected for the establishment of negro houses. In other instances, there are none such, and then sites are adapted for that purpose, according to convenience, which are secured from ordinary inundation by proper embankments. The few white people that inhabit these plantations throughout the whole

year, are the victims of gastric and hepatic inflammation, and exhibit a physiognomy of person like those of the Italian marshes and Campagna. But, singular as it may appear, the black population, when it is well treated, well fed, and clothed, is far from being unhealthy. Instances of extraordinary longevity are numerous; and the diseases which occur are generally pneumonic, and result from winter. The negro does not appear to be as much subject to the effect of summer's heat or of common autumnal miasmata, as the white man. But he is more easily affected by cold, and seems to be more frequently attacked by epidemic phlegmasiæ in cold weather. These phlegmasiæ undoubtedly originate in some atmospherical quality, not sensible merely, but insensible also; because they are prolonged through all sorts of weather, and season, and temperature. It is probable that this quality is a vegetable miasma also; but since it does not produce the ordinary morbid effect, and since indeed the negro is not very liable to the ordinary morbid effect, we are to infer that it is a peculiar modification of it, or that its operation is rendered more intense by an augmented sensibility. It must, however, be the one or the other, as is sufficiently evident, and as I hope to make it appear in the present instance.

About the close of May, some patients affected with the epidemic, were brought from the plantations, for the convenience of medical attendance, to Savannah, and placed in a house situated upon Broughton street: but the inhabitants becoming alarmed at this introduction of a novel disease among them, remonstrated with the municipal authority, and they were re-conveyed into the country. They could not have remained in the city more than twenty-four hours. A few days after this occurrence, a negro belonging to a Mrs. Bellinger, in a yard adjacent, and another, the property of a Mrs. Davidson, her daughter, who, from the community of families, was in the habit of frequenting that yard, were simultaneously attacked by the disease. Both were located in the first instance at the dwelling of Mrs. Davidson, in a distant quarter of the town. But when the symptoms became sufficiently developed to distinguish the nature of the affection, this lady, having some fears of its being contagious, had them removed again to the yard of Mrs. Bellinger, who was absent. A black nurse was at first employed to attend them, but after a few days she contracted the

disease also. A white woman was then hired to do this duty. After a short time had elapsed, she too sickened in the same manner. The white woman was carried and lodged in a house situated in a distant ward; and there again an individual of the family with whom she lodged, was slightly, but, I think, unequivocally, affected. During the month of April, Mr. Williamson brought the sick negroes from his plantation, and placed them in a house attached to the enclosure of his own residence in the city, in order that they might have the more efficient attentions of the physician. After a few days, a black man who waited in his family, and a girl employed in his yard, were violently seized. The man died, but the girl recovered. Neither of these persons had travelled beyond the precincts of the city, and could not have been exposed to the original causes in the country. All the nurses that were employed in this hospital successively took the disease. Of ten nurses employed on the plantation of Mr. Patton, nine contracted it. When it obtained footing in any house, it spread through the individuals of that house more rapidly than among those not belonging to it. When it first made its appearance at Argyle plantation, it invaded the second house of a long line of dwellings. It then attacked the first and the third, and afterwards very regularly passed through the whole.

It affected some, two, three, and even four times; but the subsequent attacks were generally milder than the first. One attack, for the most part, secured the system against a repetition. These are remarkable facts, and are certainly quite enough to inspire a suspicion of contagion; but, on the other hand, no medical person has been affected by the disease, although many have been exposed. It has not been communicated out of Mr. Williamson's enclosure, although it is known that a free intercourse has constantly existed between the sick there and the negroes of the surrounding neighbourhood. Even the family of Mr. Williamson, at the distance of twenty steps only from the hospital, have entirely escaped. The sick were brought also from the plantation of Mr. Mackay, and placed in the enclosure of the residence of Mrs. Mackay; yet not an individual, either of the family or of the servants, has contracted the disease. The negroes of the Bellinger family have communicated it to no one, except the white nurse, although the opportunities have

been numerous. The plantation of Mr. Read is contiguous to that of Mr. Potter, and not a case has occurred among his negroes. The plantation of Mr. Morell is bordering on that of Mr. Williamson, and his negroes have altogether escaped. That of Mr. Young is adjoined to Mr. Mackay's, and his have been equally fortunate. It is worthy of notice too, that the disease merely appeared for a short time at the Brampton plantation of Mr. Williamson, and after infecting a few negroes only, suddenly vanished. The number of the sick, as well as the number of deaths, has been variously proportioned at the different plantations. At Coleraine, three-fourths of the whole number of negroes, about four hundred, have been sick, and one-tenth of the sick have died. At Mr. Williamson's Clifton plantation, two-thirds, about one hundred and fifty, have been sick, and one-seventh of these have died. At Mr. Smith's plantation, one-fifth have been sick, and one-fourth of the sick have died. At Mr. Mackay's plantation, one-fourth have been sick, and one-tenth of these have perished. This diversity in the extent and mortality is not conformable to the characters of the established contagious diseases, such as small-pox, measles, scarlatina, &c.

If I have not been deceived in the facts, as I have stated them, and I have used some industry to collect them without mistake, it is evident that this epidemic has been produced, in the first instance, by a remote cause, founded in the local condition of the places where it has prevailed; and that, after it has been thus produced, it has proved contagious to a small extent, and under great limitations. In September, a storm from the sea, and a flood from the back country, occurred at the same time. They broke down the banks, inundated the plantations without exception, and swept away the crops of rice, which had been in a great degree harvested. A current, produced by north-east winds, brought those crops, together with an additional mass of other materials, from various directions, to the Georgia side of the river; and they were scattered over the surface of the soil, or deposited in heaps at different points. I have ascertained from Mr. Williamson, and the Superintendent of Mr. Potter, that this especially took place at Coleraine and Clifton, where the disease has raged most. The ditches and canals received the greatest quantities, because they were the lowest places. The destruction of trunks, the devasta-

tion of barriers, and the continued succession of freshets, rendered it impossible to cleanse them; and they became laboratories of a decomposition disgusting and offensive, until the spring had considerably advanced. Such has been the general contamination of the earth, that in some instances, where it has been irrigated for the benefit of the new crop, it has suddenly emitted an odour so intolerable, that the cultivator has been obliged to drain off the water, and renew the flowing. This offensiveness of the fields, though a common state, is not usually striking to the individuals who reside upon them throughout the year. But during the last three or four months, it has been so extraordinary as to furnish subject of complaint even to them. It has not been merely owing to the vegetable accumulation, but also to the singularly high temperature of the winter months. The process of putrefaction has been promoted by a grade of heat which is extremely rare in this country at that season of the year. Our degree of cold is never very intense. It is ordinarily sufficient, however, for a short space, to check the sensible march of vegetable and animal decompositions. But such has been the unseasonable temperature, that it is probable, in the whole interval of time between the first day of December, and the last day of February, there was not a week which was certainly equal to this effect.

Possessed, then, of the facts of the decomposable accumulations on certain places,—of the existence of a temperature fitted to facilitate their decomposition,—of the decomposition really occurring in a degree cognizable even by the sense,—of the concurrence of the decomposition and the disease; and knowing, withal, the common origin and morbid effect of miasmata, is it not just to conclude that they have constituted the first remote cause of the epidemic? If it had been produced by any sensible quality of the air, as heat, cold, moisture, or any of their combinations, it must have been general, and neighbouring plantations must have been equally affected. In addition to this consideration, those sensible qualities must have been striking and extraordinary, and fitted for such an effect by their known operation.

A few persons attribute, very erroneously, the disease to a diet of damaged corn or rice; and the example of Mr. Smith's negroes is adduced to sustain that opinion. The example, however, proves

nothing; for I am told that those negroes continued to sicken for a length of time after their food had been changed. Those who have suspected a damaged rice, suppose that in some cases it was allowed as the ordinary ration; and in others, that it was clandestinely collected, and eaten, after having been washed up by the storm. They suppose its effect has been poisonous, like that of ergot. This is the opinion of a physician. But he forgets, that a rice ergotted must have been subject to a malady in its growth, and that the crop of 1824 had been matured prior to the storm. Whatever injury was suffered by the rice of the last crop, could not have given to it that property; nor do I believe it gave to it any of a deleterious sort. The facts, however, that the disease still continues, that its cause still operates, and that for some time it has been impossible for the subjects of it to procure any damaged rice, are certainly adequate arguments of refutation to this hypothesis.

That it has been contagious in some instances, I think there is sufficient reason to believe. The proofs stated, although not infallible, are as strong as those on which we build the most of our medical opinions. It is not a virulent contagion like that of small-pox. It is not so certainly communicable under all circumstances, nor indeed under any. A slight case will not propagate it; and even an extreme one appears to do so rarely. A constant exposure to its influence, when it has assumed its worst form, appears to be necessary for its communication. It may be more easily taken in one locality than another, and still more easily taken in the atmosphere of the original causes than elsewhere. These characteristics, although thus extremely narrowed, if peculiar at all, are peculiar in that only. The communicating matters of small-pox and other diseases of the same class, are, more or less, virulent, not only by their intrinsic constitution, but by the situation, the season and the circumstances. The vaccine matter is well known to become less powerful and less safe, as it recedes from the primary disease. Sporadic scarlatina does not spread, because it is not violent and virulent enough to produce effect. Syphilis is a milder disease in our day than it was two hundred years ago; it is, even at this moment, less contagious in cold than warm countries—on mountains than in plains. Whatever may be said in the dispute about contagion and non-contagion, by the

different parties, it seems to me to be very certain that there are no fixed laws of communication which will embrace all communicable diseases. I think even that there are no fixed laws which will embrace the same communicable disease at all times. The only point which always preserves their individual or relative identity in this particular, is the sole fact of their being communicable. The contagion by contact or through a medium—the ultimate distance of its operation—its powers over the same constitution for one or many impressions—its degree of certainty to produce effect under various circumstances, are so irregular that it would be impossible, according to them alone, to decide whether any disease were communicable or not. Indeed, they are not to be considered as essential in an investigation, however auxiliary and explanatory they may be. Suppose no communicable disease had yet been known, except such only as possessed that property by contact. Should we have no contagions by mediation of the air? A rule founded in this way would be arbitrary, and absurd. We might as well conclude that every contagious disease, must have pustules on the skin because the small-pox presents itself in that shape. Or that small-pox must inflame the mucous membrane of the trachea because the whooping cough inflames it. It may be difficult to assign the exact laws of any specific contagion, and yet we may be quite assured of its existence. To ascertain such laws it becomes necessary to observe it under numerous and various circumstances. But to ascertain its existence, we demand but the clear fact of its propagation. It is indeed a curious phenomenon, that a miasm arising from putrefaction of any substance whatever, should have the power of continuing its influence through a series of animal systems. But it is curious at first glance only. For why should not a virus from this source possess that property as well as the product of a morbid process? We have but the fact at last in either case. Yet some are disposed, notwithstanding, to deny it in all diseases except such as can be traced to a product of that kind. These gentlemen are evidently ultra non-contagionists. They seem to forget that both syphilis and small-pox are modern diseases. I am no advocate, on slight grounds, for additions to the catalogue of contagions. But there are some, I believe, which, although armed but weakly with this property, nevertheless possess, and occasionally exert

it, albeit they may not be entitled to a first rank in the nomenclature of such affections.

It is not easy to insulate and depict the simple pathology of any epidemic which runs a course of some months. Its character is so much modified or disguised by the weather, and succession of seasons, that it is difficult to individualise it. The winter implicates the organs of the chest, the summer those of the abdomen. If it be idiopathic of the lungs, by heat it involves the bowels—if idiopathic of the bowels, by cold it stretches its influence to the lungs. Thus it has been in the present instance. The epidemic originated from a miasma in February, and has undergone the effect of every vicissitude of temperature and season since that time. It will, consequently, be seen, that although it has persisted always to attack certain parts and to preserve its identity, it has, more or less, involved others, and in this way, produced a various, but formidable compound of disease. I now proceed to detail the symptoms, and shall endeavour to separate the essential from the nonessential as much as possible.

The patient complains for a day or two of lassitude and aching in the limbs. He is then attacked by pains in the head, stomach, or intestines, and sometimes in the chest. His strength is suddenly prostrated, his respiration hurried. A slight movement, even turning in bed, or an effort to speak, seems to exhaust him. Sudden flushings of heat frequently come over him; and at such times, he breathes more rapidly, and appears almost expiring. He has excruciating pains in the muscles of his extremities, and sometimes points to a spot, where he says they are particularly seated. A limb sometimes loses its voluntary motion; and if he be required to turn, he either moves it with his own hand, or he needs the nurse to move it for him. He has tremors, subsultus tendinum; his tongue trembles, and he utters with difficulty, or is incapable of speech. The muscles of the pharynx are occasionally in part palsied, and the deglutition is impaired. As the disease advances, the nervous system becomes evidently more prominently irritated. The countenance grows wild or stupid; the involuntary movements more considerable, and the strength more reduced. The patient is delirious, mutters and catches at imaginary objects, picks the bed-clothes, and frequently becomes entirely deaf. He is mentally uneasy, fancies that he is not in his own house, and

insists on going home. He finally falls into a state of profound stupor. The skin in some instances is constantly heated; in others, it is heated by paroxysms; while in a great number, it is either preternaturally cool, or preserves its usual temperature, from the commencement until the approach of death. It is generally dry; but sometimes clammy perspirations appear on the face, neck, or extremities. There are no regular periods of sweating.

The circulation is variously affected. The heart sometimes flutters; it is irregular in the force and the interval of the stroke; at other times it is regular in both. Occasionally, it is preternaturally slow. I have seen it beat not more than forty-four strokes in the minute; and not more than fifty for ten days together. In a majority of cases the patient has fever, which is marked by periodical exacerbation and remission. In others he has fever without regular periods, fever continued; and sometimes he is without any fever at all. The artery at the wrist pulsates in correspondence with the action of the heart. It is full and strong, with or without frequency. It is weak, slow, and scarcely perceptible. It is small, tense, and thread-like, with quickness and frequency. It is full, soft, and slow. But I have seen a patient whose circulation went on as usual, whose skin had a universal natural degree of heat, whose tongue was moist and clear, who was without thirst or pain, and who exhibited no evidence of disease, except an extreme prostration, a hurry in the breathing after an exertion, and some tardiness of comprehension. There are cases of this disease which remit without fever. The exacerbation is evinced by oppression of stomach, pain of head, and general uneasiness.

The tongue, variously affected, like the pulse, is sometimes moist and clean; at others, it is covered with a long white or dark fur. But its general appearance is a leaden-white, at some distance from the point. It is commonly moist, though sometimes it becomes dry and rough. Occasionally the edges have a fiery red aspect. There is rarely much thirst at any stage. The foul tongue is connected with the accelerated circulation. The clean, moist tongue with its slow or unfevered state. At the commencement of the epidemic, the contents of the chest were frequently implicated. The patient had cough, and pain under the ribs. This affection often amounted to peripneumony, and he

expectorated mucus with blood. The cough was sometimes incessant. This peripneumonic state was accompanied by the ordinary tumultuary pulse, but the prostration of muscle was greater than it is in common inflammatory engorgement of the lungs. Since the warm weather of May and June, the thoracic affections are become comparatively rare; and even in the cases of their occurrence, they seem to have been frequently consecutive or sympathetic. Sometimes there is only a slight cough, which is the effect of gastric irritation exclusively, and may be excited at pleasure, by pressing the stomach. The rareness of the pectoral irritation, after the recession of cold weather, produces a conviction that it is to be imputed more to the accidental effect of this cause, than to the insensible virus of the prevailing disease. Yet, as it still continues to occur, and occurs, too, primitively, it must be considered as a constituent, though not a uniform feature of the disease.

The stomach and intestines have been jointly or separately affected, without exception. This is ascertained by the touch. Frequently there is most sensibility in the region of the former; but, generally, it is greatest in the region of the latter. The sensibility of the stomach is, for the most part, just under the diaphragm, and about the seat of the cardia. The affection of these parts is not *perceptibly* constant throughout the disease, although it is undoubtedly so. The pain sometimes becomes suppressed, after a few days. This singular phenomenon appears to depend on the condition of the nervous system; for it takes place only when that is evidently and profoundly involved. The patient has a torpor, an inertness about him, complains of nothing: the sensibility seems to be overwhelmed, although the intelligence may be perfect. The mind is cut off from the body, and ceases to take cognizance of its derangements. He gets up from his bed, perhaps seats himself on a chair, and asserts that he is well; or he places himself at the bedside of another patient, for the purpose of brushing or fanning him. May not this state resemble that which is produced by a dose of opium, in certain cases of acute inflammatory pain, where the inconvenience is suspended, while the inflammation still not only exists, but may even be aggravated? The sensibility of the stomach is sometimes so extreme, that the mere weight of the hand is insupportable. I

thought, in one instance, that it must depend in some measure upon the state of the skin; but a more minute examination convinced me that I had been mistaken. Notwithstanding the exalted sensibility of these viscera, which are so generally connected with the vital organs, the patient is frequently without any evidence of irritation of the heart. The pulse beats its ordinary rate, or it is even more inactive than it should be. Is this curtailment of the usual influence of the stomach and intestines over the heart, another effect of the irritation and oppression of the nervous system? Is not the diminished action of this organ, or the non-increase of action to which it is subjected, an effect similar to that which is produced by this irritation on the muscular power in general? Is not the nervous system disabled from performing its function of transmitting the sympathies, as any other part is disabled from doing its office, by inflammation? Irritate much an eye, and its vision becomes impaired; the mouth and the taste is either lost or perverted; the Schneiderian membrane, and the sense of odors is suppressed; a muscle, and its energy of contraction is diminished.

When the small intestines are affected, there is generally an acute sensibility about the region of the umbilicus. The patient is either constipated, and medicines purge him with difficulty, or he contracts a diarrhœa, and is sufficiently evacuated without them. There is sometimes accumulation of air, and the abdomen is extremely distended. At other times, there seems to be accumulation without distension; and if the fingers be pressed along the bowels, a singular cracking sensation is produced, by the escape of air from one portion of the intestinal cylinder to another. The discharges per anum are excessively bilious, particularly since the warm weather commenced. They are sometimes black and fœtid, and are occasionally accompanied by great quantities of worms. The lymphatic system has, in a few instances, been complicated with this disease. There have been several cases of parotid and inguinal tumours, which have terminated by resolution. They have been too rare, however, to form a component part of it, and must be set down as accidents from peculiarity of structure.

When an attack proves fatal, the event generally takes place on the ninth day. Sometimes it takes place at a much earlier period; but in many instances, it is protracted for several

weeks. If the patient recover, the morbid state does not suddenly disappear; he gradually improves into convalescence. There is no evidence of crisis. His progress to health is slow and tedious. Sometimes, at the end of two months his strength is not yet regained, and he is fatigued by small exertions. Dr. Cuyler informs me that he found the convalescence more rapid in all cases where the mouth had been affected by the mercurial treatment.

It is worthy of notice, that many of the symptoms of this disease bear a strong analogy to those of yellow fever. Nor is it a matter of surprise, since the same organs are sometimes idiopathically assailed. The pulmonic affection does not appertain to yellow fever, yet I have frequently seen it accompanied by a cough. It is but an irregular occurrence in this disease. In yellow fever, the nervous system is affected in a minor degree. In this disease it is affected predominantly. In yellow fever, the gastric affection is uniform; in this disease it is occasional. In yellow fever, the intestinal affection is occasional; in this disease it is uniform. In yellow fever, there is frequently a dysentric affection of the colon; in this disease there is none. In the one there is black vomit; in the other there is seldom any vomiting at all. Yet, notwithstanding these differences, there are cases of both diseases, which approximate so much to an exact similitude, as to justify the parallel. There is, in both, a similar affection of the nervous system, of the stomach, and the small intestines. They are not violent, nor mortal, in the same degree; and it is probable that much of the difference of symptoms between them results, also, from that source.

The following cases of morbid anatomy, which I shall now proceed to describe, will serve to explain the symptoms which have been recounted, and to complete the pathology of the disease. They are imperfect, so far as concerns the condition of the medulla spinalis. This omission is to be regretted, because that condition is important for the illustration: but it was unavoidable. And, although there can scarcely be a doubt that it participated in the morbid state of the brain, it would have been more satisfactory to have certified it by inspection.

Case 1.—The woman Lucretia, aged fifteen years, was attacked on the 25th of June, by a pain in the head, bowels, and chest. Her tongue soon became furred, her eyes inflamed, and her skin

hot. Her pulse was small, tense, and frequent; and, alternately, augmented in the day, and remitted at night. Her strength was prostrate; her respiration hurried; she coughed frequently, and trembled much. During the exacerbation, the intellect was disordered; but in the remission, she recovered her understanding. As the disease advanced, the pain of bowels and chest diminished; the cough and hurried breathing increased. The nervous affections became predominant. The mind was permanently deranged; she muttered incessantly, mistook and imagined objects, picked the bed-clothes. The extremities became cool, the pulse feeble, and the cough suppressed. She died on the 15th of July.

Dissection, twelve hours after death.—In the cavity of the cranium, the brain and its membranes presented sufficient marks of disease to account for the nervous symptoms. The dura mater was sound; the arachnoid was ash-coloured, where it passes over the fissures of the convolutions; the pia mater was extremely reddened with injected blood. The surfaces of the ventricles were beautifully striated with numerous vessels of a scarlet colour. They contained little serum; but it had, probably, escaped to the basis of the brain, where the deposit was considerable. When a section of the substance of the brain itself was made, the surface poured out blood from great numbers of minute vessels. In the cavities of the chest, the traces of disease were still more conspicuous. The left lung was sound, as well as the pleura of that side. The inferior portion of the right lung was engorged almost to hepatization. The pleura, in general, of that side was inflamed; but the redness was most intense in the covering of the engorged part of the lung, and in the covering of the diaphragm. There was a small deposit of serum and coagulated lymph in its cavity. The external coat of the pericardium was much reddened; the internal coat slightly. It contained a small quantity of serum. That portion of it which envelopes the heart, as well as the substance of the heart itself, appeared as usual. The ventricles were sound; the right contained some coagulated lymph. The semilunar valves were injected, and deeply coloured with blood. The internal coats of the aorta and pulmonary artery were tinged, though not so much, in the same manner. All the great vessels, as far as the head and extremities, presented a similar complexion. The auricles were as is ordinary. In the cavity of the

abdomen, the peritonæum appeared sound. The liver and kidneys much engorged. The spleen of the natural size. The mucous membrane of the stomach exhibited no vestige of disease; that of the small intestines presented a deep red colour throughout. The colour was not altered in any manner. The mucus coat of the bladder was bright red, and thickened in spots. These spots were tough and yellow.

Case 2.—The man Jack was seized on the 13th of June, with pain in the head and bowels. He had active circulation, hot skin, thirst, hurried respiration, and was suddenly prostrated. His abdomen was extremely sensitive to the touch. The hot skin and active circulation periodically remitted, at first; but they soon became continued. The tongue, at first white, gradually assumed a dark brown appearance. The pulse, from having been full and bounding, became small, tense, and frequent. He fell into delirium, muttered, picked the bed-clothes, was uncontrollably restless, had subsultus tendinum, tremors; and sunk, finally, into stupor. He died on the 22d of the same month.

Dissection, eighteen hours after death.—Putrefaction of the body but little advanced, notwithstanding the warm weather of a summer's day. In the cavity of the cranium, the dura mater and arachnoid membranes sound. The vessels of the pia mater much engorged with blood. A surface, made by cutting away a portion of the brain, became crowded with red spots. The ventricles contained but a small quantity of serum. In the cavity of the chest, the pleura of both lungs adhered to that of the ribs; but it seemed to have been the effect of a former disease. The lungs themselves were perfectly sound. The pericardium appeared as usual, and contained very little serum. The external surface and the parenchyma of the heart presented nothing remarkable. The semilunar valves, including a small extent of the internal membrane of the ventricles, were injected with blood, and deeply coloured. The serous and fibrous coats of the aorta, down to the bifurcation of the primitive iliacs, of the arteria innominata, the subclavian, the carotid, and of the pulmonary artery up to the lungs, presented a violet appearance. The arteries of the extremities were exempt from it. In the abdomen, the peritonæal tunic, the liver, the spleen, the pancreas, kidneys, and bladder, exhibited nothing worthy of notice. The mucous coats of the

stomach, jejunum, and ilium, were more or less deeply reddened. The colon appeared as usual. The cardia, and great curvature of the stomach, were most intensely discoloured.

By a comparison of these two cases, it may be remarked, that no important difference existed in the morbid conditions of the brain; nor was there any important difference in the symptoms evidently produced by those conditions. Not so in the conditions of the viscera of the chest. In the one, the lungs, with the heart and its pericardium, were sound; in the other, the right lung was engorged, and the pericardium reddened. In the one, the pleura was sound, and contained nothing; in the other, it was reddened, and contained serum and coagulated lymph. In the one, the semilunar valves, a small extent of the inner coat of the ventricles, and the coats of the arteries, were much tinged; in the other, slightly. Accordingly, and by consequence, there was great discrepancy in the symptoms. In the one, there was hurried respiration alone; in the other, hurried respiration, constant cough, and pain. To what cause shall we assign the hurried respiration, in the case of sound lung, and in many other cases, in which it was unaccompanied by cough or pain? To the same nervous irritation and oppression, I conceive, which occasioned the prostration of the voluntary muscles, and interrupted the sympathetic communication between the heart and the stomach. The blood was imperfectly decarbonized, by a defect of nervous influence, in some measure, like the effect of dividing the eighth pair. There was considerable difference in the conditions of the parts of the abdomen, also. In one, the liver, kidneys, and bladder, were sound; in the other, much injected with blood. In the first, the mucous coats of the stomach and small intestines were reddened; in the second, that of the small intestines only. The difference of symptoms, however, was not very remarkable. A general sensibility by pressure, at the beginning, in both cases; its suppression towards the termination. Perhaps, more pain was felt in the one than the other, at the epigastrium. The affection of the valves and arterial coats, was a little different in degree only.

What particular indications, if any, might be ascribed to it, I am not able to say. I have examined three victims to this disease, and in all have I observed this remarkable appearance. The

colour, I have said, was violet. According to Lænnec, there is sometimes a bright red state of the inner coats of the arteries, which he suspects to be inflammatory; but the violet, he attributes to passive congestion. He is chiefly governed by the colour, in the adoption of this opinion; which is clearly a most uncertain mode of determining whether a part be inflamed or not. Besides, it is well known that the violet tinge is left on the inner coat of an artery, after the application of a ligature; and it could scarcely be doubted that this is the result of inflammation. The redness of the mucous coats, of the pleura, and the lung, of the brain and its appendages, might, with as much propriety, be ascribed to passive congestion. The colour was nearly the same in all; but that we are forced to impute it to irritation in these instances, I think, is evident.

First, From the pain in all these parts. Richerand says, that increased sensibility is the original symptom of inflammation. Boyer says, that pain is often the only revealing index of an internal inflammation. It certainly decides, for the most part, the existence of hepatitis, pleuritis, &c. When a fixed pain is felt for some time in the kidney, the liver, the lung, we attribute it to chronic inflammation or irritation. It is frequently our only concluding principle, and we rest on it with confidence. But if, after the pain, the autopsia prove a sanguineous accumulation, we do not hesitate to pronounce the state which produced it, inflammatory, and not passive.

Second, From the incontestible evidences of inflammation of the pleura, in the deposit of serum and coagulated lymph within its cavity. The exudation of coagulable lymph from a serous membrane, is never the consequence of a reduced action of its capillaries.

Third, From the inconsistent manner in which this redness was spread, with that which it ought to present in passive congestion. When the circulation is weakened from any cause, the blood will accumulate in the capillaries of depending parts. If a weakened man stand for a length of time, the capillaries of his feet will become distended with blood; and if the position be long enough preserved, there will be an effusion of serum in the cellular tissue. Now, the same thing must have occurred in the cases under discussion, if the capillaries had been incapable of sustaining the circulation. The blood, by the anastomosis, must

have gravitated to the parts depending, and there would have been an irregular diffusion of the red colour corresponding with it. The patient being entirely supine, for some space previous to dissolution, we should expect to find the congestion of the head at the occiput; that of the pleura and lungs, at their posterior parts; that of the stomach, at the pylorus, and adjacent to the spine; that of the small intestines, in propinquity of the mesentery. But the examinations, on the contrary, have presented an equal distribution in the pia mater; a distribution irregular, but opposite to the depending parts, in the chest; a distribution to the great curvature and cardiac portion of the stomach, and not to the pylorus and the posterior portion; and, finally, a uniform diffusion in the small intestines, and not a partial one.

Fourth, A distinguished anatomist has asserted, that there are but two great causes of sanguineous accumulation in the capillaries. The one is, interruption to the current of blood in an arterial or venous trunk, from some cause or another; the other is irritation, or increased action. The interruptions are gravitation in a weakened part; pressure on a large blood vessel, as by aneurism; organic diseases of the heart, which embarrass the venous circulation; obstruction in the lungs to the passage of blood through the pulmonary artery. Now, the congestions, of which I speak, could not have arisen from any of these causes. Not gravitation, for the reason assigned; not pressure, for there was none; nor an organic disease of the heart, for it did not exist; not obstruction in the lungs, for in one case they were sound, and in the other, not sufficiently affected to produce that effect. They must then, consequently, have been the effect of irritation. There are two species of this state of the vessels. The first is exemplified in the phlegmon, which is seated in a strong tissue. The second, in the blister, which is made on a scorbutic surface, where the vessels are easily ruptured, and bleed by the slightest rudeness; where, prior to death, there are evidences of putrescency, and an incipient dissolution of both solids and fluids, and after death, a rapid decomposition. These two species of irritation differ from each other in degree only. In relation to the strength of fibre, they are equal. The first is an action above the ability of a part in sound tone; the second, an action above the ability of a part which, by some latent cause, has lost its tone. This last is what is

mistaken by some for a passive congestion. But it is no more passive than the first; for it tends as much, perhaps more, to disorganization and death. Take a man whose constitution has been broken by debauchery or disease; his gums are tumid and purple, his breath is fœtid, his skin is soft and smooth, blood accumulates in the depending vessels. A small red spot appears on his back—it enlarges, becomes livid, mortifies; it is a carbuncle. Who would assert that carbuncle was not a disease of irritation, or that it consisted in mere passive congestion. On the other hand, instead of such a subject, select one in the vigour of health—a small tumour appears at the surface; it is red, enlarges, suppurates, and is rapidly cicatrized; it is a common phlegmon. What constitutes the difference between carbuncle and phlegmon in these cases? Not the disease, certainly—but clearly the character of the diseased part;—it is irritation, or increased action, in both cases. Now, the congestions which I am discussing, so far from being passive, are not even such as are associated with weak fibre; but phlegmonous, or such as are connected with strong fibre, not fragile, nor easily ruptured. There has been neither hæmorrhage, nor evidence of putrescency, nor rapid decomposition after death. All tends to convince us that both solids and fluids were in vigorous condition—every symptom before death, every appearance afterwards.

Fifth, The violet complexion is not a proof of passive congestion—first, Because the blood becomes frequently engorged and stagnant, around the point irritated, as in peripneumony; and it is blackened by the stasis, notwithstanding the inflammatory action. Second, Blood detained or embarrassed in the capillaries, becomes venous, of course, because it is the physiological function of these vessels to make it so. Third, The blood is found black even in the arteries, in all cases where the breathing ceases before the circulation. This happens by asphyxia, or lingering death, in which the blood traverses the lungs without benefit of air. In such cases, an inflamed part must be violet coloured, of consequence.

Sixth, Passive congestion cannot take place in a weakened and inactive capillary. This sort of vessel circulates the blood by its own independent effort. So that, when it acts strongly, it contains more blood, and when it acts weakly, it contains less. This

is proved by a local inflammation of any kind, by the erection of the penis by injecting itself, and by the palsied limb, which perishes for want of capillary action, notwithstanding an augmented propulsion from the heart.

Seventh, The passive congestions being admitted, they are not competent to account for the heat of skin, the pain, the activity of the circulation. They are not competent to account for the disease. Congestion itself is nothing. The morbid state, if there be such, is a quality of the vessels in which the congestion is seated. Is this quality a passive state, is it mere debility? Prostrate a man by bleeding, reduce the action of the heart by the cold bath, until you cannot perceive the pulse at his wrist, yet he may be as free from disease as when all his faculties were in perfect vigour. The convalescent who cannot stand, may be as sound as before his malady. A part recovered from local inflammation is positively more fragile, it is weakened; its morbid character, is, nevertheless, completely removed. The morbid state is not, then, mere passiveness; nor is it congestion. It is something else; and it is that which produces the heat, the pain, the active circulation. Beside, congestion, when it occurs from a vascular interruption, in the stomach and intestines, &c. often indicates neither prostration nor irritation. I have seen an aneurism of the heart, which was connected with such a state of the mucous membrane of the stomach. The capillaries were glutted with blood, and must have been in that condition for some time. Yet, the patient had enjoyed good appetite, had been free from pain, or nausea; his skin had been cool, mouth moist, &c.; and death at last took place from suffocation, by disease of the heart alone. Laennec says, that this congestion of the mucous coat, which is a constant concomitant of organic affections of the heart, is more intense even than that which arises from gastritis; and yet, the patient experiences no inconvenience from the ingestion of wine, brandy, or the most stimulant substances. Indeed, it is not a disease, and produces none of its developments. But when a part thus subjected to congestion, becomes connected with a morbid state, that state is an irritation, so far as we know any thing about it. It is the ultimate point of our knowledge of the diseased action. It is what we treat exclusively in the majority of cases.

I have dwelt on these morbid appearances, because it is of the last consequence in the management of the disease. If they were the mere effects of debility, the practice by sedative or neutral remedies, would be wrong; and if, on the other hand, they resulted from inflammatory action, the general use of tonics and stimulants could not be right. I have shown, I think, that their origin was a superexcitement of the capillary vessels; and no matter what may be the reported success of any species of therapeutics, if it did not conform to that principle, it was erroneous. The value of remedies ought to be decided by the pathology of the disease, and not by the event. Every practitioner sums up his cures, and, although three-fourths may belong to the medicinal powers of the constitution, he monopolizes all. In regard to the deaths, he reverses his estimate; ascribes them to a virulence of malady beyond controul; and credits none to himself, however justly entitled to his quota. A multitude of medical men, it seems to me, prescribe with a pre-established conviction, that diseases must be mortal without medical interference. But I have no doubt, the majority are mastered by nature, when they are mastered at all; a few by the physician, and not a few in spite of him. For the truth of this, I appeal to every candid man of experience, who has gone the round of diseases, with the round of nostrums; the tonic, the stimulant, the sedative; or who, like the philosopher of Cos, has waited, and watched, and practised by expectation.

To settle the method of treatment by the treatment alone, is almost impossible. Sometimes, the disease is mortal under all circumstances; at others, it will not be mortal under any. There are cases beyond cure from the beginning; there are others destined to recover without the aid of art. How shall we distinguish them? The event evidently proves nothing. This is the great spring of dispute among us. One succeeds best with the bark; another, with blood-letting; another, with emetics; and another, with cathartics. Bourquin, of this city, a very reputable man, preferred to all other remedies, in autumnal fever, small and frequent bleeding from the arm. Grimes, a man of unquestionable talent, and, what is more than all, an anatomist, preferred cathartics, and seldom used his lancet. Proctor, a physician of the Edinburgh school, relied chiefly on salivation. Others, not wanting in respectability, condemn all these, and prefer tonics,

with stimulants of the strongest character. I have observed these discordances every where. They have existed at all times—in England, France, Italy, Germany; among the ancient Greeks, Egyptians, Romans. The sedantia have been constantly arrayed against the stimulantia, until medicine has almost become a subject fit only for sarcasm or reproach.

The only mode by which such follies, such veritable empiricism, can be detected and quashed, is, to build up a pathology on the basis of the symptoms and dissections, and then to make it the rule of practice—a pathology, based not on the symptoms alone, nor on the dissections alone; but on both jointly. Not on the symptoms, because that would be nosological; not on the dissection, because that would be purely anatomical, and not medical. In this way, we should possess ourselves of the seat of the disease, of its nature, and its physiognomy; and the question of treatment would be narrowed to a point. Not that I would reject, altogether, the evidence resulting from experiment. It is necessary to establish a sound therapeutical method; but I would make it secondary and subordinate. If the disease were a phlegmasia, I would select my remedy from among the contra-stimulants. If I failed, I should not abandon my course immediately. I would modify, I would time differently, I would lessen or augment the quantities. If I were to lose nine cases out of ten, by pleuritic inflammation, I should not, on that account, condemn the antiphlogistic treatment. I would not apply stimulants to a phlegmon, to resolve it, though I had generally failed with emollients, sedatives, and derivatives. In desperate cases, in desperate epidemics, where the event, under the rational plans, must be mortal, specifics and powerful repellents are admissible. It is even admissible to employ remedies of this complexion, in certain slight affections; as in moderate irritations of the pharynx, and autumnal fevers of a mild grade. They are gradually curable by the physiological treatment; but they may be cut short by revulsion. The slight remittent, which is produced by a sparse miasma in healthy seasons, is most quickly removed by active cathartics, which stimulate and disperse the irritation of the mucous coats of the stomach and bowels; but, except under such circumstances, the instructed physician will adhere to the pathology which he has made out, as his best and surest guide. When

the excitement is great, he will attempt to reduce it, and not to repel it; for, in this case, he would not suppress, he would aggravate the evil.

Having established, then, by the symptoms and autopsia, that the disease was a superexcitement or irritation of the intestines or stomach, or both, in conjunction with irritation of the brain, and frequently with irritation of the organs and membranes of the chest, it follows, that the best remedies should be such as would reduce the excitement of the parts affected. Muscular debility, tranquil or diminished action of the heart, moderate temperature of the skin, do not furnish reasons to deter from the pursuit of this course. They are the common result of cephalic irritation, of intestinal and gastric irritation, and even of pneumonic irritation, where the parenchyma of the lungs is embarrassed. Accordingly, it has been found, that blood-letting, moderate evacuation from the bowels, external derivation by mustard and blisters, emollient applications, a diet of gruel and flaxseed tea, have proved the most successful remedies. They are the physiological remedies confirmed by the event. Blood-letting has been particularly useful in the pulmonic cases, and where the action of the heart and arteries was considerable. But where the great circulation was not implicated, or was weakened, its benefit has been doubtful. The first case of this disease, that I saw, had considerably advanced before it was submitted to medical attention. The peripneumony was the most prominent affection, the heart extremely active. Notwithstanding free and repeated abstractions of blood, the pulse appeared to me to be unabated, until near the close, which was fatal. In other instances, however, it has moderated the violence of the disease, and contributed to the cure. This remedy was most called for in February and March. Since that time, it has been seldom necessary, or even admissible. The warm weather induced more deposit in the intestinal tube, and made a reference to evacuants more requisite than they had been at an earlier period. In many instances, the bowels were constantly emptied by a slight diarrhœa, which served instead of medicine. But when that did not take place, such doses of castor oil were administered as sufficed to remove real collections with the least irritation. When that could be effected by injections, they were preferred, to avoid additional stimulation to the mucous

coat. Where the intestinal irritation was extreme, and the abdomen distended with flatus, all evacuants, injections as well as medicines, were sometimes abandoned. Blisters and rubefacients were applied to the extremities, and in the region of all the irritated parts, to increase the external capillary excitement. A poultice, covering the whole abdomen, was found so agreeable to the patient, so composing to the nerves, that he would ask to have it, if it had not been ordered. When this course of treatment had removed the pains in the head, chest, and abdomen, and the patient suffered an extreme debility, tonics were employed with advantage. For this purpose, chamomile flowers and sulphate of quinine were preferred. In some instances, they produced feverish symptoms, and it was found necessary to lay them aside. Perhaps, it was only after the commencement of the real, as well as apparent convalescence, that they were certainly beneficial.

This treatment is extremely simple. It is that which has come under my own observation, and which has been completely successful in the hands of my friend Dr. Bartow. But he took the precaution, at the outset, of having every negro who was seized with the disease, brought immediately to the city; where, by his unceasing assiduity, he could enforce the exact execution of his method of practice. Other physicians have not enjoyed that advantage. They have been obliged to attend at a considerable distance, by a visit once a day; their nurses have been ignorant women, taken from the field; the remedies have been badly administered, if even they have been administered at all. In this way, they tried every species of treatment, the tonic, stimulant, depleting; and the mortality was great under all. A physician who sees his patient for ten minutes, once a day, cannot judge of the variations in the progress of the disease; he cannot prescribe according to those variations; he cannot estimate the strength of the system, in exacerbation and remission; he cannot graduate his doses; he cannot meet with promptitude the exigencies which occur; and, lastly, he cannot, without intelligent and faithful attendants, have an assurance that his directions are pursued. It is, no doubt, to all these causes, that we are, in a great measure, to ascribe the greater ravages of the disease under the management of the physicians who visited in the country. Embarrassed by such difficulties, it is impossible for them to assert, at this moment,

what remedies were proper, if experience is to be a guide in the formation of an opinion. It is much to be regretted, also, that a considerable time had elapsed, after the invasion of the epidemic, before these gentlemen had executed a single morbid dissection. Had they done so in the first instance, they would not have groped in the dark. They would have been able to establish a pathology of the disease, which would have sustained them in a firm course, and would not have allowed them to be shaken by the uncertain rule of the event alone. In consequence of this omission, bark, wine, brandy, turpentine, opium, &c. &c. were successively employed without advantage. For, how can it be supposed for a moment, that such medicines would have been administered, after detecting, by the inspection, an inflammation of so many vital parts. Notwithstanding the appearances of debility which presented themselves, they would have refrained from those excitants, under the conviction, that the former were purely symptomatic, and that they did not arise from the real and intimate destruction of the stamina of the constitution.

ARTICLE II.—*Observations on a peculiar Catarrhal complaint in Children. By* JOSEPH PARRISH, M. D. *Surgeon to the Pennsylvania Hospital.*

IN the course of my practice, I have met with frequent instances of a catarrhal affection, among infants; which, though bearing in its prominent symptoms a close resemblance to ordinary catarrh, is yet very different in the treatment which it demands. As it sometimes assumes an extremely dangerous character, it becomes important to distinguish it, and correctly to understand the practical indications which it presents.

The child is affected with cough and difficult respiration; and the pulse, on examination, is generally found to be more frequent than natural. Sometimes, even a degree of febrile excitement is presented, which, with the extreme difficulty of breathing, is apt to convey to the young practitioner the idea of inflammation in the lungs. But active antiphlogistic measures, so far from affording relief, are calculated to aggravate the alarming symptoms. It is

not easy to point out any decided marks by which these cases may, in every instance, be certainly distinguished. I have generally observed, that the dyspnœa, though constant to a greater or less degree, is much more violent at one time than at another, assuming an irregular paroxysmal form; and the paroxysm bears a great resemblance to that of a patient labouring under asthma. The pulse, as before stated, has commonly more than its natural frequency; but it possesses little force, and is rather a pulse of irritation than of inflammatory action: in most instances it may be said to be feeble. In the severer cases, the skin becomes cold, the countenance shrinks, and unequivocal symptoms of debility are observable. A *cold cheek* is a frequent accompaniment of the disease; and sometimes occurs, when the rest of the surface is naturally, or even more than naturally warm. This I regard as one of the best diagnostic symptoms; at least, it indicates a want of action in the system, and is sufficient to guard the practitioner against the danger of hastily inferring the existence of inflammation. In the pulmonary complaints of children, I am much in the habit of laying my hand on the cheek, to ascertain its temperature; and if I find it cold, (not *cool* merely, but actually *cold*,) I consider the patient in a situation so critical as to demand very close attention. By the symptoms above described, the majority of these cases may be distinguished without much difficulty: but instances occasionally occur, in which the resemblance to catarrh, in its inflammatory form, is so close, that we can with difficulty discriminate them in any other way than by the effect of the treatment. In such instances, it is of great advantage to call in the aid of collateral facts; as, for example, the result of other similar cases in the same family; and thus avail ourselves of that similarity of constitution which is so apt to prevail among the children of the same parents. An illustration of this principle will be afforded in the detail which I shall give of the complaint, as it came under my notice in the family of John H. Cresson.

As to the nature of the disease, I believe it to be catarrhal, as I have known it to occur when catarrhal fever prevailed among children; but the dyspnœa which forms so prominent a symptom, is undoubtedly of a spasmodic character; and, together with the disposition to sink, which is often observable, probably depends

on a constitutional debility of the respiratory organs. We have in the complaint an interesting exemplification of the fact, that the same cause may, in persons of different constitutions, produce diseases requiring opposite plans of treatment.

My favourite remedies in the cases I have described, are the antispasmodics and expectorants. Assafœtida is peculiarly beneficial. I generally direct one drachm of the gum-resin to be rubbed up with an ounce of mint-water, and a teaspoonful of the mixture to be given every two hours. If this should be found too strong, I direct the mother to dilute it, till of such a strength as the child can bear, and to give a teaspoonful of the preparation thus diluted, for a dose. I scarcely ever met with a mother who could not readily graduate the strength of the article to the state of her infant. I also employ it in the form of enema, sometimes with the addition of a few drops of laudanum. I believe that assafœtida may in general be used very freely, with entire safety, in the spasmodic diseases of young children. Its exemption from any narcotic properties, enables the practitioner to give it in large and repeated doses, so as to keep up the requisite impression in cases of an urgent character.

The rectified oil of amber is another antispasmodic, to which I am particularly partial, and which I occasionally substitute for the assafœtida. Like this, it is free from any narcotic properties, and I believe is entitled to more attention than it generally receives. It may be given in the form of julap, with loaf sugar, gum arabic, and cinnamon water. I am much in the practice of using it externally, in the spasmodic diseases of infants. As a common formula for this purpose, to be prepared in families, I direct the oil of amber and laudanum, of each a teaspoonful, with sweet oil and brandy, of each a tablespoonful, to be beat into a liniment, with which the breast, and the back along the spine are to be freely bathed. I have even added oil of amber and laudanum to poultices, to be applied to the feet.

In the intermediate hour between the doses of assafœtida or oil of amber, I usually direct a decoction of senega; and if the symptoms are urgent, push it sometimes so far as to produce vomiting.

In conjunction with these remedies, the fumes of rosin are often highly beneficial. I have known them to be received with pleasure by the infant, and to produce an immediate improve-

ment in the respiration. If their effect should not be salutary, the patient may easily be removed beyond their influence.

But I do not trust the case entirely to the antispasmodics and stimulating expectorants. I attend to the state of the bowels, and if opening medicine is required, direct castor oil. Blisters to the breast, and the warm bath, are also useful auxiliary remedies, and should not be neglected.

In order to illustrate the statements already made, and to exhibit the circumstances by which I was led to the adoption of my present practice, I will give an abstract of a few of the cases of this disease which have fallen under my notice.

I was called, in the morning of the 11th of the 7th month, 1810, to the infant daughter of Robert Burkhardt. I found her with difficult breathing, some cough, and a pulse moderately febrile. A few days before, she had been affected with diarrhœa, which had ceased spontaneously. Her gums being inflamed, I lanced them immediately; and conceiving that she might be relieved by a restoration of the diarrhœa, I directed castor oil. On a subsequent visit, about four hours afterwards, observing the respiration to be still more difficult, I took a small quantity of blood from the arm, and as the bowels had not yet been moved, prescribed a purge of calomel. I also directed antimonial wine in small doses. At the expiration of about three hours, I was sent for in great haste, and on my arrival, found her so exceedingly ill, that her friends believed her to be dying; and her appearance really justified their alarm. She was apparently insensible, with a respiration exceedingly laborious, a shrunk countenance, and a very feeble pulse. I should myself have despaired of the case, had I not known under what apparently hopeless circumstances infants sometimes recover. I ordered the warm bath, sinapisms to the feet, a large blister over the breast, and as the bowels still continued constipated, laxative injections containing assafœtida. But the remedy on which I chiefly relied, was assafœtida rubbed up with mint water, given frequently and in large doses. To the astonishment of every one who witnessed the case, my little patient perfectly recovered.

Another instance of the disease occurred to me subsequently, in the family of James Allinson. I was called in the night, on account of the sudden occurrence of extreme difficulty of breathing;

which I found to be accompanied with a pallid countenance, a cool skin, and languid circulation. The dyspnœa was not uniform; but occasionally remitted considerably, and then recurred with violence. I did not in this case employ the lancet. The treatment consisted, principally, in warm bathing, a large blister over the breast, attention to the bowels, and the liberal use of assafœtida, given by the mouth, and at night in the form of enema, combined with a few drops of laudanum. The volatile alkali was occasionally substituted for the assafœtida. After the alarming symptoms were thus subdued, a severe attack of cholic came on, which, however, yielded to mild measures, and the child was restored to health.

In the year 1815, in the family of John Suffrein, a barber, in Front street, I attended two other cases of the disease, of a very violent character. They presented the same general symptoms with those already described, and were particularly marked by the spasmodic respiration. I used the assafœtida, alternated with senega; and resorted also to the fumes of rosin. This last remedy proved exceedingly grateful to the little sufferers, and the improvement it occasioned in their respiration was obvious. Under the use of these measures, combined with gentle purging, the warm bath, and blisters, they both perfectly recovered.

Repeated opportunities of trying this plan of treatment have since occurred to me, and I have had every reason to be pleased with its efficacy. I believe that an opposite practice, founded on the opinion that the affection is of an inflammatory nature, would be productive of much more mischief than advantage.

It has before been observed, that the disease is sometimes indistinctly characterized. To exemplify this fact, as well as to show the great importance of forming a proper judgment, I will close this communication by giving a short notice of the complaint, as it occurred in the family of John H. Cresson, a respectable merchant of this city.

The parents of this family were most singularly afflicted in the loss of their children. They followed to the grave six sons in succession, all of whom died in early infancy, the oldest being only fourteen months, the youngest five. With one exception, they were all carried off by a peculiar catarrhal disease; and so fatal had this proved, that no sooner was a child attacked, than the

parents considered it inevitably gone. Only a single instance of recovery had occurred, and this was in the case of a daughter, who had the complaint lightly, and passed through it without medical treatment. The three first fatal cases had been considered by the attending physicians as severe cases of inflammatory catarrh, and treated accordingly with active antiphlogistic measures. The fifth fell under my own care, and I had an opportunity of observing it from the commencement. Though convinced of the inutility of the antiphlogistic course pursued in the former cases, I could not still be certain that there was no inflammatory action in the lungs; and did not, therefore, adopt that active antispasmodic treatment which I afterwards found to be useful. The symptoms of the complaint were those of catarrhal fever, with cough, steady difficulty of breathing, and more apparent action than in the cases which I have before described. In the instance which came immediately under my own care, I had an opportunity of making an examination after death. On inspecting the lungs, I discovered not the least vestige of inflammation. There was some effusion into the bronchial tubes; but it was such as often occurs, not only where no inflammation has existed, but also in cases of extreme debility. From the result of this examination, I inferred that there was, in the pulmonary organs of these children, a debility, which both invited disease, and after its attack, prevented a return to healthy action. With this view, I concluded that some prophylactic treatment, calculated to invigorate the lungs, was all-important; and it occurred to me that this end might be answered by subjecting the surviving children, and those which might yet be born, to the action of the fumes of rosin, frequently applied. The parents were, accordingly, requested to put the plan in operation; they did so, and the children were made every day to inhale the resinous fumes. An infant son, born some time after the death of the last child, was, from its birth, subjected to this prophylactic treatment. In process of time, I was summoned to visit him, labouring under the terrible malady, and found him exceedingly ill. In the treatment, all idea of inflammation was laid aside, and the following plan adopted. The room was filled with the fumes of rosin; and the child was so much relieved by them, that he would play in them with apparent delight. A blister was at once applied to the breast, and the bowels were opened with

castor oil; but I am inclined to believe, from what I have since seen, that a little time was lost in waiting for the operation of the medicine. After the bowels were opened, a mixture was prescribed, containing the rectified oil of amber and the tincture of balsam of Tolu, which was alternated with the decoction of senega. Each dose of the mixture contained about three drops of the oil of amber. This plan was steadily pursued, and I had every reason to be delighted with the result. The child perfectly recovered; and this was the first instance in which a son had passed through the disease.

After this, I attended, in the same complaint, two other children, both females, one of whom was extremely ill. In these, I immediately directed the decoction of senega, alternated with the oil of amber; and an obvious improvement took place in less than twenty-four hours. Similar auxiliary measures were pursued, as in the former case, and both children were in a short time restored to health.

Other instances of the disease have subsequently come under my notice, and I have now attended five cases in the family, all of which were treated on the same plan, and with the same success.

ARTICLE III.—*Account of a case in which an Ovarium was successfully extirpated, in a letter to a gentleman in Philadelphia. By* ALBAN G. SMITH, M. D. *of Danville, Kentucky.*

DEAR SIR,

WHEN I wrote to you last, I promised, so soon as my professional duties would admit, to send you some account of a case of a diseased and dropsical ovary, which I will now copy for you from my note book.

May 15th, 1823, I was requested by a gentleman in this neighbourhood to visit a negro woman, who, he said, had a tumour in her abdomen, of two years standing, which continued to grow, notwithstanding the efforts of various practitioners.

16th. Visited her, and found that she had a large tumour, which seemed to fill her whole abdomen, but was somewhat more elevated on the right side. Upon examination, per vaginam, the

uterus appeared to be in its natural position. She complained of *bearing-down* pains, whenever she was in an erect posture; and these were always worse during her menstrual periods. She was about thirty years of age, and had borne two children. Her general health was tolerably good. Seeing, however, that death must inevitably ensue, if the tumour continued to increase in size, I informed her that the only means of relief was by the extirpation of the tumour; to which she readily consented.

After putting her upon low diet, and giving aperients and alteratives, for a few days, I performed the operation on the 24th. I commenced by making an incision from the umbilicus to within an inch of the pubis. After cutting down carefully to the peritoneum, I raised it with the tenaculum, and made an incision into it sufficiently large to introduce my finger, and then enlarging it sufficiently to introduce two fingers, I finished the incision by cutting between them. The tumour showed itself immediately, with its peritoneal covering. Finding that it could not be removed through the incision while of the present size, and being unwilling to extend the latter higher up, and believing, too, that the tumour contained a fluid, though deeply seated, I made a large opening into it with the scalpel, and evacuated several pints of watery matter; when it so collapsed, that I was enabled, though not without assistance and difficulty, to get it out of the abdomen. I now found, that the attachment to the right side of the uterus was not much larger than the usual breadth of the broad ligament. The tumour appeared to be an enlargement of the whole ovary; as the fallopian tube, with its fimbriated edge, was stretched over it. I then surrounded the attachment, including the fallopian tube, with a strong ligature of white silk, drew it very tight, and tied it; suffering both ends to remain long enough to extend several inches out of the incision. The tumour was then separated, at least three-quarters of an inch from the ligature. I then turned her over on the abdomen, (at the same time keeping in the intestines with a warm cloth,) to allow all the blood to escape from the cavity; and turning her on her back again, I took five threaded needles, and closed the external incision by the interrupted suture, taking great care to include the peritoneum in the stitches. I left the end of the ligature which included the attachment of the tumour, lying

out of the lower end of the incision, and secured it by a piece of adhesive plaster; when, after laying on some long pieces of adhesive plaster across the abdomen, and applying a light bandage, I placed her in bed, and gave her seventy-five drops of tinctura opii.

She soon made some efforts to vomit. I then gave fifty drops more laudanum, and in half an hour after, two hundred per anum, which did not all seem to allay the irritation of the stomach. I then introduced five grains of gum opii, as a suppository; after which, she became easy, and slept an hour. In the evening, I directed a large decoction of senna, salts, jalap, and anise seed; of which she took a wineglassful every two hours, until morning.

25th. This morning she had a free passage; but had suffered from nausea since midnight. Pulse, 80; and appeared easy. On visiting her in the evening, found her vomiting; which, however, was soon allayed by large anodyne injections.

26th. She had several passages in the course of this day. In the evening, the nausea again returned; which was again relieved by the anodyne injections. She could not take any thing on her stomach, unless when under the influence of opium.

27th. She had rested pretty well during the night. Pulse, 110, and full. Some pain in her abdomen and back. Took eighteen ounces of blood, and gave ℥i. of sulphate of magnesia; which operated freely in the evening. The nausea had left her. A considerable quantity of serous fluid was discharged from the wound.

28th. Pulse, 120. Rested tolerably. Took twelve ounces of blood; and gave submur. hydrarg. grs. xv. and sulph. magnes. ℥ss. Applied blisters on each side of the wound. With the assistance of an enema, the cathartic operated in the evening, and she was much better.

29th. Pulse, 90. Pain nearly subsided. Catamenia returned, but more profuse than common. Took out the sutures. The wound looked well in the evening. Ordered an enema.

30th. Much better. Pulse nearly natural.

On the twenty-fifth day, I took away the deep ligature, by one thread at a time; since which, she has been tolerably well, except during her menstrual periods; at which time she complains of pain in her loins and abdomen.

Upon making an incision into the tumour, I found it to have a

scirrhous appearance; and to contain, interspersed throughout its substance, a considerable quantity of bony matter.

You will, perhaps, be surprised at the large quantity of opium given to allay the irritation of the stomach; but experience has taught me that small quantities will not answer that intention: and as it is necessary to precede any inflammatory symptoms with a purgative, it could not be kept on the stomach in any other way.

The above paper, which we received through one of our members, from the author, we consider a highly interesting one. As this operation is peculiarly American, seldom, if ever, having been performed with success, so far as we know, in Europe, we are bound to consider this as one of a series, which have, unquestionably, done honour to our country. To enable the reader to judge of the degree of importance of these performances, and of the difficulty in which the first operators were placed, we have thought it not amiss to present a sketch, from the books of easier access, of what has been already done in cases of this description.

The extirpation of the ovaries appears to have been repeatedly performed on the human subject, among the ancients. Gyges and Andramites, both Kings of Lydia, are reported by writers to have been guilty of this outrage; in one, and, probably, in both instances, for the purpose of employing females thus mutilated in the offices commonly given in charge to eunuchs. The same enormity is stated to have prevailed in Egypt, and among the Creophagi, a people of Arabia. For these historical facts, the authorities are Hesychius, Suidas, Athenæus, and Alexander ab Alexandro.

Boerhaave quotes from Wier and De Graaf, a case in which a man, who made it his profession to castrate and spay animals, becoming irritated at the disorderly life his daughter led, extirpated her ovaria, and effectually removed her lascivious inclinations, without destroying her life. Frankenau is cited for an instance, in which an ovarium was removed by a penetrating wound, and in which the patient recovered. Percival Pott, and Lassus, report cases, where, in one instance, a single ovarium, in the other, those of both sides, were extirpated, by removing them from strangu-

lated hernias. DENEUX, in his "Researches on hernia of the ovarium," states, also, that he had removed the greater part of one of these viscera; and that the woman recovered.

The operation of extirpating the ovarium for the removal of tumours, appears to have been first proposed by PLATERUS. Several writers, as DIEMERBROECK, DELAPORTE, and MORAND, have treated of the subject; and though there appears to have been some difference of opinion, that of DIEMERBROECK and SABATIER appears to have prevailed, and to be generally received: viz. that it is altogether impracticable. The objections of the first of these writers have, however, less weight than those of the latter. DIEMERBROECK alleges as objections, the danger of opening the cavity of the abdomen, and the fear of a hæmorrhage, difficult or impossible to controul, from the spermatic arteries. These must have been overcome in each of the instances above enumerated. Those mentioned by SABATIER, are, the frequency of adhesions; the enlargement of the vessels of the tumid ovarium; the difficulty or impossibility of ascertaining, positively, that the disease is really in the ovarium; the frequency with which both ovaria are affected; the fact, that surgeons are seldom applied to until the disease has made considerable progress, and frequently become liable to these difficulties, &c.

Notwithstanding these objections, an instance is cited by M. VALENTIN, from the practice of M. LAFLIZE, a skilful surgeon at Nantes, in which he was necessitated (I know not how,) to open the abdominal cavity, in the cure of an abscess in the side. He was then induced to remove a tumour, found in that cavity, covered with *skin*, and bearing many long hairs, and a number of teeth, among which were several molares. These bodies are, as is well known, most usually found in the ovaries; from which, therefore, the presumption is, that M. LAFLIZE separated the one in question; although it appears, from the observations of RUYSCH and BAILLIE, that they are sometimes found elsewhere. The writer of this was shown, several years since, by a Member of Congress, a mass of this nature, having no distinct skin, but containing a number of hairs, and of incisor teeth, irregularly dispersed, which had been separated from a larger one, contained in the rectum of a girl, from which the one he saw hung pendulous. We do not mention names, because the physician who

separated it, with whom we have not the advantage of a personal acquaintance, may wish to publish this very curious case.

There has come to our knowledge, a rumour of an instance, which we believe was never published, in which a man in New Jersey, extracted one of the ovaria, in a quarrel, from his own wife. We have hopes of being able to present our readers with the particulars, in a future number of this Journal.

The first instances, of which we are aware, in which this operation was performed by a surgeon, for the removal of a diseased ovarium, are a memorial of the courage of Dr. EPHRAIM M'DOWELL, of Danville, Kentucky. His first case was in December, 1809. The female was here affected with labour-pains; and her case was taken by two physicians for pregnancy. On examination, however, per vaginam, Dr. M'Dowell found nothing in the uterus; and concluded, from consideration, that it was an enlarged ovarium. The incision was made parallel with the rectus abdominis, at the distance of about three inches, and was nine inches long. The tumour was at first too large for extraction. A ligature was put round the fallopian tube, an incision made in the tumour, and about fifteen pounds of a "dirty, gelatinous-looking" substance extracted. After this, the fallopian tube was cut, and the ovarium extracted, weighing seven pounds and a half. The intestines rushed out of the first opening, and remained out of the abdomen until the tumour was removed. The woman was then laid on her face, to allow the escape of the effused fluids; and the wound afterwards closed with the interrupted suture and adhesive plaster. The ligature of the tube was brought out of the lower end of the wound. In five days after this dreadful operation, the woman was found "engaged in making up her bed;" and in twenty-five days, she returned home, a distance of sixty miles, in good health.

In the next case, the tumour was immoveably fixed; and was found adhering to the fundus uteri and to the bladder. Having opened the abdomen, however, Dr. M'Dowell made a small incision into the tumour, and removed a large amount of gelatinous matter and blood. He then closed the external wound; and the woman apparently recovered. It is stated, however, in a subsequent communication by the same author, that the swelling gradually returned, and, six years after, became as large as at the

period when he operated on her. This patient, a negro woman, was sufficiently relieved, during the interval, to be able to fulfil her usual avocations.

In the third case, the tumour "adhered to the left side." Dr. M'Dowell cut from an inch below the umbilicus to within an inch of the pubis, and then enlarged the opening to the right of the umbilicus, and for two inches above it. He placed a ligature on the tube, as in the first case, and "turned out" an ovarium, which weighed six pounds. No mention is made of the manner in which the adhesions to the left side were overcome. The wound was closed as before. This patient, (who was also a negress,) recovered in two weeks; excepting the removal of the ligature, which was not effected till after the lapse of five weeks.

In April, 1817, Dr. M'Dowell removed, from another negro woman, a tumour of the ovary, weighing five pounds. The incision was made "near the linea alba." The ligature slipped from the fallopian tube, after its division, this organ being short and spongy; the patient, of consequence, lost a great amount of blood. Ligatures were then applied to several of the arteries, individually; but this also failed, as some of them cut through. With much difficulty, a large ligature was now put round the whole stump of the tube, and secured by stitching it in and out of the tube, at several places. This, at last, effected the purpose; and with precautions similar to those in the first case, mentioned above, the wound was closed. The patient recovered of the operation; but remained in ill health; her complaints appearing to be hysterical.

In April, 1818, the same practitioner saw another negro woman, whom he tapped four times, removing, at each time, a large portion of a gelatinous fluid. He found a firm substance of considerable size, with the probe, which he had introduced to break down the gelatinous masses which presented themselves in the discharge. Finding no marks of pregnancy, per vaginam, he concluded it to be an enlarged ovary. He operated by an incision on the left side. The tumour adhered, by long and slender attachments, to several of the adjacent parts. These adhesions he secured by ligatures, as several of them bled. After a process similar to those described above, the wound was closed. She died, however, on the third day; having been affected with vio-

lent pain in the abdomen, and obstinate vomiting. The peritoneum was found violently and extensively inflamed.

Hair and a bone were found in this tumour; as well as a large, round perforation, of the size of a musket ball, opening into the cavity of the abdomen.

These curious cases are described in the Eclectic Repertory, vol. 7, p. 242, and vol. 9, p. 546. It is certainly much to be lamented, that the accounts there given, of so important an operation, were not more copious; and this circumstance has drawn forth comment in the same journal.

In July, 1821, Dr. NATHAN SMITH, Professor of Physic and Surgery in Yale College, extirpated an ovarium, from a lady of Vermont. It had been observed, several years before, when about the size of a goose egg. It burst into the abdomen three times, twice during pregnancy, and once from a fall. At the time of the operation, it exhibited a large tumour, in the right side of the abdomen; and was both moveable and capable of internal fluctuation.

The tumour was pushed up into the middle of the abdomen, and an incision, of about three inches long, made in the linea alba, from about an inch below the umbilicus. The peritoneum was not opened till the blood had ceased to flow from the first incision. The tumour was exposed and tapped, and a canula introduced. Eight pints of a dark, ropy fluid were removed. The sac was then drawn out, and separated, with the knife, from the omentum, to which it adhered. Two arteries in the omentum were tied with *leather ligatures*. The ovarian ligament was then divided, two arteries secured as before, and the ligament returned. The adhesion to the parietes of the abdomen, was separated by a touch of the knife, and the use of the fingers. The sac was supposed to weigh between two and four ounces. The incision was then closed with adhesive plaster and a bandage.

No unfavourable symptoms occurred. In three weeks, the patient was able to sit up and walk; and she afterwards recovered.*

In the current year, (1825,) Mr. LIZARS, author of the "Anatomical Plates," has published in Edinburgh, a small folio, illustrated with splendid coloured plates, entitled, "*Observations on Extraction of Diseased Ovaries.*" He enumerates four instances of at-

* Ed. Med. & Surg. Journal, vol. 18, p. 532.

tempts at this operation; one of which had been published previously. In this instance, the abdomen was opened, but no tumour found; affording a striking instance of the uncertainty of the judgment of a consultation of several eminent physicians, in this difficult and obscure affection. The woman recovered in a short time, after experiencing some trouble from vomiting. In a second case, one ovarium was successfully removed, and the woman recovered; leaving, however, the other ovary diseased, and enlarged to about one-fourth of the size of the one removed. This appears to have been in consequence of adhesions, and the length of the operation. In the third case, the tumour was entirely removed; but the patient died, of peritonitis, in fifty-six hours. The fourth patient, presented, on opening the abdomen, a great collection of blood vessels in the omentum, running into the tumour, and so numerous and large, that Mr. Lizars was unwilling to proceed with the operation. The woman, at the last accounts, was apparently recovering. We quote this from the Edinburgh Medical and Surgical Journal for June, 1825.

Such is the history of an operation, of the opinions of which, now entertained by some, in England, we can judge in part from the following fact. In a number of Johnson's Medico-Chirurgical Review, in an article on the late work of Dr. Blundell, which distinguished physiologist had been urging on his countrymen an imitation of the bold and successful men who originated this practice, the editor, or reviewer, makes the following remarks:—"*We entirely disbelieve that it has ever been performed with success; nor do we think it ever will.*" B. H. C.

ARTICLE IV.—*On the Non-Mercurial Practice in Syphilis. By* THOMAS HARRIS, M. D. *Surgeon of the United States Naval Hospital at Philadelphia.*

THERE is no disease which has elicited more of the attention of surgeons, than the venereal; and few, perhaps, on which more opposite opinions are entertained. For this reason, it is inferred, that every contribution to the general stock of knowledge, relating to this subject, must be acceptable to the medical public.

Holding an appointment in the public service, it has been my fortune to have had more cases of this malady under my care, than is common to surgeons of my own age, engaged in private practice. Opportunities have thus been afforded, to witness it in all its protean forms, as influenced by every variety of climate and constitution, as well as by the different methods of treatment, which are usually pursued for its cure.

Educated to rely on the specific virtues of mercury, in every form of syphilis, I exclusively pursued this practice for six years after I was commissioned a surgeon in the navy. During this period, I had several hundred cases of this complaint under my immediate charge.

Two weeks after the Macedonian sailed, in the year 1815, from Messina, a port in the island of Sicily, I had, at one time, fifty-seven men under the influence of mercury for this affection.

This remedy was in all instances promptly prescribed, after the disease had been contracted, and with as much care and circumspection as could be expected, in the situation in which I was placed. I had often to lament, however, a want of success; and was not unfrequently perplexed with new complaints, supervening on the original disease.

Of the fifty-seven cases treated with mercury, on board the Macedonian, six were affected with secondary symptoms, while under the influence of a salivation for the primary sores; two were affected with excavated ulcers of the tonsils; one with excavated ulcers of the tonsils, and iritis; two with tubercular and papular eruptions; and one with scaly eruptions, combined with superficial ulcer of the soft palate, and periostitis. A large majority of these patients were cured between the periods of ten and thirty days; yet there were others, who continued under treatment for months afterwards. At the expiration of six months, at which time I had permission to leave the ship, three of the number continued on the sick report. Others, whom I had thus treated, reported themselves to my successor, affected with different forms of secondary syphilis; but of the precise number, I have been unable to learn. The number of cases affected with secondary symptoms, may have been increased, by the exposure of the patients in a damp ship; by their liability to take cold from being so situated, and by their occasional ir-

regularity in living. I believe, with HUNTER, that such causes not unfrequently excite into action, what is usually denominated secondary syphilis.

I kept no record of the appearance of the primary sores, in the cases to which I have alluded; for I then believed, as I do now, that their various aspects did not depend upon any specific difference in the character of the ulcers, but upon the particular tissue affected, upon the duration of the disease, and upon the condition of the system, at the time it was invaded with this affection. In proof of there being no *specific* difference in the character of these sores, it may be stated, that, in their progress, or during the course of treatment, they change from one form to another. It has been repeatedly remarked, by surgeons of high authority, that when several men have had connexion with the same woman, in immediate succession, each has been affected with a distinct form of the disease. While one has had gonorrhœa, a second has had a Hunterian ulcer, a third a superficial ulcer, &c. Such examples I have more than once seen among the sailors in the public service.

HUNTER was the first, so far as I know, who originated these views. They are now fully confirmed, by the testimony of LAGNEAU, JOURDAN, ROSE, GUTHRIE, HENNEN, and others. "I am well aware," remarks the last author, "that some practitioners have assumed to themselves the possession of a 'tactus eruditus,' by which they can at once distinguish a chancre, or a venereal ulcer, or eruption, in which mercury is indispensable, from one of a different nature; but I have seen too many instances of self-deception, to give them all the credit to which they lay claim."

The declaration of CARMICHAEL, that each different primary ulcer is followed by its own peculiar train of secondary symptoms, is found to be unsupported by fact. The ample and extensive observations of the British army surgeons, conducted under the enlightened direction of Sir JAMES M'GRIGOR, the Director General of the Medical Department, are directly at variance with such an opinion. These distinguished surgeons have seen no correspondence whatever, between the primary and secondary affections. On the contrary, they have witnessed every variety of constitutional syphilis, to arise from a single form of primary disease.

The discriminating test of HUNTER, and others, is found to be

equally erroneous. They assume, that mercury is proved to be an antidote to syphilis; and hence conclude, that every disease which yields to this remedy, must be of a similar character. Now, as this medicine may be advantageously used in a variety of affections, that have no connexion with any form of the venereal disease, we can readily understand how a delusion so very singular has been encouraged. The promulgation of such an opinion is the more extraordinary, since it is admitted, by every practitioner, that mercury will not, in every instance, cure syphilis. To cite examples of this kind, were useless, as they are acknowledged by the mercurialists themselves. HUNTER states, that he has had such cases; and, after a number of failures with his *specific*, he has successfully resorted to guaiacum, sarsaparilla, and sea-bathing.

In other instances of failure with mercury, he resorted to an expedient, which, while its absurdity cannot fail to provoke a smile, must awaken regret, that a mind ordinarily discriminating, should be obscured and confounded by its own ingenious speculations. Entertaining the opinion, that "no two actions can take place in the same constitution, nor in the same part, at one and the same time;" and believing, that secondary syphilis is weakened, and its character changed, by duration, it occurred to him, that if a patient thus affected were inoculated with fresh venereal virus, it would, by its superior or youthful energy, overcome the old or original disease. To test the soundness of his theory, he directed a patient, whose disease had long resisted his curative efforts, to contract this complaint anew, to suspend the further use of mercury; and if, under these circumstances, he recovered, the accuracy of his views would be placed beyond the reach of cavil. The result of this, as well as other experiments of the same nature, were such as he anticipated. The patients thus treated were all perfectly cured.

It should be recollected, however, that these patients had been under the continued use of mercury for many months; and were, according to Mr. HUNTER's own statement, getting gradually worse under this treatment. When he caused the patients to be reinfected, he directed that the use of this medicine, in every form, should be suspended. Now, as this distinguished surgeon admits,

that mercury often excites disease,* and that it had an injurious effect in the particular cases on which he had experimented, it is sufficiently apparent, that these patients owe their recovery to a suspension of the injurious agent which had been prescribed as a remedy, and not to the practice of inoculation.

If, then, the warmest advocates for the mercurial practice admit, that it sometimes fails to perform a cure; that it often aggravates the complaint; that it excites scrophula in persons predisposed to this disease; that it induces nervous affections, from which, at times, patients never recover; that it lays the foundation for rheumatism; that it produces deformity, by destroying the teeth: if, I say, it be capable of producing the injurious consequences stated by its advocates, are we not warranted in resorting

* "Mercury, in some, produces a kind of hectic fever; that is, a small, quick pulse, loss of appetite, restlessness, want of sleep, and a sallow complexion, with a number of consequent symptoms."

* * * * * * * * * * *

"It further brings on very disagreeable constitutional complaints, such as loss of appetite, watchfulness, sallow complexion, lassitude from the least exercise, and swelled legs; and, although various means were used to reconcile the constitution to it, yet it continued to act as a *poison*." * * * * * * *

"Mercury often produces pains like those of rheumatism; and also nodes, which are of a scrophulous nature."—*Hunter's Treatise, pages* 312, 313.

"Mercury, when it falls on the mouth, produces, in many constitutions, violent inflammation, which sometimes terminates in mortification; it is also capable of retarding the cure of chancres, buboes, and certain effects of the lues venerea, after the poison has been destroyed."—*ft.* 315.

"We often find, that while a mercurial course is going on, and the ulcers on the tonsils healing, or even healed, they shall swell, become excoriated, and the excoriations shall sometimes spread over the whole palatum molle, which renders the nature of the disease doubtful. * * * These cases prevail considerably; for it is difficult to say, when the venereal virus is absolutely gone."—*ft.* 341.

"We find, also, that new diseases arise from the mercury alone. The tonsils shall swell where no venereal disease has been before; the periosteum shall thicken, and also, probably, the bones; and the parts over them shall become œdematous, and sore to the touch."—*ft.* 342.

Similar opinions might be extracted from most candid writers upon this subject; but as Mr. Hunter is considered the most authoritative among the mercurialists, I deem it unnecessary to extend my paper with further quotations.

to other remedies, which are milder in their operation, and which have been proved to be not less certain in their effects?

The method of treating syphilis without mercury, is by no means a new practice. It is as old as the earliest records of surgery. Ulcerations of the genitals, phymosis, paraphymosis, warts, condylomatous excrescences, buboes, gonorrhœa, and ardor urinæ, were not only known to the ancients, but readily cured by an alterative course of treatment. The testimony collected by the learned SPRENGEL, from the Greek, Roman, and Arabian, as well as from some of the early French and English surgical writers, conclusively establishes this point. It is sufficiently evident, that mercury was not used, because the mineral was not known, as a medicine, until about the close of the fifteenth century. But admit, as some writers assert, that the syphilis which now prevails, is different in character from that which assailed the ancients; and that it was imported into Europe by the followers of Columbus; still, even this view of the question proves that the disease was under the controul of other agents than that of mercury.

It is well known, that this mineral was, and is, still unknown to the Indians, as a medicine; and yet, no one pretends that syphilis is considered among them as an incurable disease. On the contrary, it is asserted to be mild in its symptoms, and altogether manageable, as it is found among every people of temperate habits, and who avoid such articles as are calculated to induce constitutional irritation.

The use of mercury in syphilis, has been occasionally interrupted, since its general introduction. "I remember," says MORGAGNI, "when I was quite a young man, and went to Bologna, that both methods (the external and internal) of using mercury, were so far deserted, that I never saw any physician make use of it, for the whole space of eight years, during which I studied physic there, in either one way or the other way. What remedies, then, have you seen those very excellent physicians make use of, you will say, against the lues venerea? Why, the decoction of woods, &c. &c."

The history of surgery thus affords the most satisfactory testimony, in favour of what is called the non-mercurial practice in syphilitic diseases. The invaluable and impartial reports of the British army surgeons, which were fully confirmed by the infor-

mation which I obtained when in Spain, determined me to give the mild, alterative treatment, a fair trial, when a suitable opportunity offered. In this determination I was strengthened, by the assurances which I received from Doctors CHAPMAN and DEWEES, that they had adopted the non-mercurial practice, with but few exceptions, long before the appearance of FERGUSON's paper, which was published in 1811. Doctor ROUSSEAU, of this city, adopted a similar practice about the same period; and in it he still perseveres, with increased confidence in its success.

In the year 1819, the Naval Hospital on the Philadelphia station, was placed under my direction, which afforded me an opportunity of testing the powers of the alterative method of treatment. As the men in this establishment were under my exclusive controul, and as they could receive no medicine, or diet, which was not prescribed by myself, I felt assured, that there could be no deception in the result of my cases.

My first patient was affected with ulcers of ten days standing, situated on either side of the frænum, and accompanied with so much inflammation, as to render the retraction of the prepuce extremely difficult. Possessing all the characteristics of the Hunterian chancre, and thus indicating, according to CARMICHAEL, the use of mercury, I at once concluded, that the result of my treatment in this case, must greatly influence the course of my subsequent practice.

To subdue the general arterial excitement, as well as local inflammation, he was bled and purged repeatedly; saturnine lotions were applied to the inflamed part, and the patient required to confine himself to a horizontal position. After the inflammation was thus removed, the ulcer was washed, once a day, with a solution of sulphate of copper; and the patient directed to drink freely of the decoction of the woods. Under this treatment, the chancres so rapidly improved, that on the sixteenth day they were entirely cicatrized. This patient remained on the Philadelphia station for two years afterwards, without the slightest symptom of secondary syphilis.

The next patient had an excavated ulcer of the glans penis, with incipient bubo, of eight days standing. This case was attended with some arterial excitement, and great derangement of the digestive organs. I pursued the same depletive plan, as in the

former instance, together with rest, and a low diet. After the patient was sufficiently reduced, the solution of sulphate of copper was applied once a day to the chancre, and the tobacco ointment was kept continually in contact with the bubo. On the nineteenth day, the ulcer was healed, and on the twenty-sixth, every vestige of the bubo was discussed. This patient remained on the Philadelphia station, thirty months after treatment, without any secondary symptoms.

Such flattering results awakened confidence in this system, and encouraged me to persevere. With the exception of three cases, in which I prescribed alterative doses of mercury, I have not used it in any form of the venereal, for the last six years. Two of these cases were indolent swellings of the groin, of doubtful character; and the other, a superficial ulcer, situated on the internal lining of the prepuce, accompanied with inflammation of the conjunctiva, and slight opacity of the cornea. The mercurial treatment in these instances, proved serviceable, as it doubtless would have done, had such symptoms arisen from any other cause.

During this period, I have had under my care, one hundred and sixty-four cases of venereal, in all its various primary forms. Fifty-three of these were private patients, and one hundred and eleven were attended in the Naval Hospital.

In all cases, the general remedies were regulated by existing symptoms. As the disease was, in most instances, connected with constitutional disturbance, I often found it necessary to bleed, and always to purge freely.

Believing that the primary venereal affection never produces constitutional symptoms, excepting under a particular state of the system, I think it of great importance to bestow attention to the general condition of the constitution. With this view, principally, I prescribe, with other suitable remedies, the warm bath once or twice a week, and the decoction of the woods. These remedies promote that healthful action of the surface, on which is dependent the proper performance of all the other functions of the body. To this treatment, particularly, I am disposed to attribute the rare occurrence of secondary syphilis in my own practice.

The topical remedies were varied according to circumstances. When there was much inflammation, either poultices, or cooling lotions, were applied, until this symptom was subdued. Afterwards,

the ulcer was treated with either the black-wash, composed of calomel and lime water, or with the cupreous solution, of the strength of ten grains of the sulphate of copper to the ounce of water. If this solution be applied oftener than once a day, it does injury, by exciting inflammation. When a more powerful escharotic is indicated, the lunar caustic may be resorted to with advantage. In venereal ulcers, I have generally found the unctuous applications injurious.

Among the fifty-three private patients, whom I had thus treated, for the primary affection, there did not occur, to my knowledge, a single case of constitutional disease. A few of this number were strangers, it is true, of whom I lost sight, soon after I had pronounced them cured. The majority of them, however, I am in the custom of seeing frequently; and several of them are married, and blessed with healthy children.

Of the number treated in the Naval Hospital, which was one hundred and eleven, two cases only were followed by secondary symptoms. The first patient was affected with pustular eruptions, which occurred five weeks after being cured of an obstinate and virulent gonorrhœa. The other was a case of mild tubercular eruption, which appeared while the patient was under treatment for an excavated ulcer of the glans penis, accompanied with a bubo in the left groin. Both these cases yielded to the alternate use of the decoction of the woods, and the nitro-muriatic acid, in connexion with warm bathing. Not one of the patients, whose primary sores were treated on the non-mercurial plan, were subsequently affected with either ulcerated throat, or disease of the bones.

Since I have abstained from the use of mercury, in the management of this disease, twenty-three cases with secondary symptoms have come under my care. A few of these were my public, and the remainder my private patients. They had all been treated on the mercurial plan, by other practitioners; and, no doubt, according to the rules prescribed for the exhibition of this mineral. To the liability of patients who have been salivated, to receive cold, which, as I have already stated, is the ordinary exciting cause of secondary symptoms, I attribute, in some degree, their frequent occurrence. I have not assumed the privilege of deciding, whether the twenty-three cases were, for the most part, venereal, or mercurial. Nor are those nice and difficult discrimi-

nations, of much practical importance, if the patients be treated according to the alterative method. These cases were all perfectly cured, without the use of a single grain of mercury. Several of them proved tedious, it is true; but having acquired confidence in the non-mercurial practice, I persevered, and was ultimately rewarded with success. Whether, or not, the cure would have been expedited, in some of those cases, by the use of mercury, is altogether a matter of conjecture.

In many instances, this medicine makes a most salutary impression on the venereal disease; in some, it effects a cure even more tardily than in the cases to which I have referred; and in others, it greatly aggravates every symptom. We have not yet acquired sufficient tact, to enable us to select the precise cases for which this valuable medicine is particularly adapted. This faculty of discrimination, does not consist in being able to reduce the several forms of the disease into different classes; but to anticipate the effects of the mineral, upon every peculiar temperament and idiosyncrasy. Such prescience has not been accorded to short-sighted mortals.

The following tables will exhibit a compressed view of the result of my practice. This view would be more satisfactory, provided I were able to notice the character of every different form of the primary disease, from which the constitutional affection emanated. In a majority of the cases, I have not been able to obtain any satisfactory history, in consequence of their being attended for the original disease, on other stations, and by other surgeons.

Character of the Primary cases.	*Average number of days under treatment.*	*Number affected with Secondary symptoms.*	*Character of the Secondary cases.*
Hunterian ulcers,	19	None.	
Hunterian ulcers, in connexion with bubo,	26¼	None.	
Non-Hunterian ulcers	23¾	None.	
Non-Hunterian ulcers in connexion with bubo,	37	1	Tubercular and scaly eruptions.
Gonorrhœa,	17	1	Pustular eruptions.
Gonorrhœa in connexion with bubo,	38	None.	

Character of the Constitutional Disease.	*Average time required for the cure.*	*Number of patients who have experienced a recurrence of the constitutional disease.*
Papular, tubercular, and scaly eruptions,	47 days.	None.
Tubercular eruptions, with ulcerated throat,	77 days.	One.
Ulcerated throat, with affections of the bones,	9 months.	None.
Ulcerated throat, with periostitis,	4 months.	None.
Tubercular eruptions, with disease of the bones,	13 months.	None.

It will be perceived, that I have noticed gonorrhœa as one of the primary forms of syphilis. In this view of the subject, I am sustained by the recorded opinions of HUNTER, HENNEN, GUTHRIE, JACOBS, JOURDAN, LAGNEAU, and many other distinguished surgeons.

I am aware, that a majority of enlightened practitioners consider gonorrhœa and chancre as distinct diseases; but the weight of authority is decidedly in favour of their identity of character. The experiments of HUNTER, which were said to have been performed upon himself, go far to establish this point. By inoculating himself with the matter of gonorrhœa, he produced a legitimate chancre, which ultimately produced constitutional syphilis.

These experiments were repeated under the direction of Mr. BENJAMIN BELL, and with what *he* supposes, different results. He admits, that sores were produced by the inoculation; but as they were cured without mercury, he inferred that they could not be truly syphilitic. Such an argument, in the present age, will be of little avail, and cannot, in any degree, affect the validity of Mr. HUNTER's experiments.

ARTICLE V.—*On Curvature of the Spine.* *By* JOHN K. MITCHELL, M. D. *one of the Physicians to the Philadelphia Alms House Infirmary.*

ANTERIORLY to the time when Mr. POTT called the attention of physicians to this disease of the spine, it had, in modern Europe at least, fallen into neglect. The subjects of it, usually the most interesting and intelligent children, were left to their fate, and consigned, without a hope, to pain, distortion, and death. The accidental discovery, by HIPPOCRATES, that issues or setons afforded sometimes a remedy, led to the occasional use of the actual cautery, and of caustic issues. Long, however, before their revival by Mr. Pott, these means of cure had fallen into disuse, and nothing equally good had been substituted in their place.

As Mr. Pott confounded those cases which depend on caries, with those which have their origin in some unknown distemperature of the vertebral column, *his* practice, exceedingly valuable in one class of these affections, but injurious in the other,—has, gradually, fallen into neglect.

Since that period, the increasing frequency of this disorder has called to it, more particularly, the attention of the profession. It is now generally believed, that the posterior and angular curvature is the only deformity of the spine dependent on caries; and that the lateral or serpentine distortion results either from general constitutional debility, debility of the spinal braces, or some specific disease of the intervertebral substance itself.

While, therefore, for that form of the disease dependent on caries, *rest* and *issues* are prescribed; for the others, are applied, exercise, various modes of suspension, and such diet and medicines as are, in the opinion of the practitioner, likely to restore the tone and vigour of the constitution.

Without pausing to consider, at present, the novel theories respecting the pathology of the various forms of curved spine, I will proceed to recount the remedies which have, in my hands, and in those of some of my medical friends, produced results so satisfactory, as to lead to the reasonable hope, that this formidable disease will soon cease to be classed among the *opprobria medicorum.*

It is now generally admitted, that *lateral curvatures* of the spine demand, 1st, that mechanical means should be used to correct the curve; 2d, that they should be applied in such a manner as to give to the muscles of the spine, and, indeed, to all the muscles, great freedom of motion; and, 3d, that every means of augmenting the tone and vigour of the system, and of the spine, should be perseveringly applied.

To fulfil the first of these indications, many ingenious *instruments* have been constructed. These may be divided into two classes. Both of them elevate and support the head, and sometimes also the shoulders; but the one class transfer, by appropriate mechanism, the weight of the upper part of the body, from the spine to the pelvis; whilst the other class take it off entirely. Chesher's collar, and the common stays and steel rod, are examples of the one; the screw chair, and braces and pullies attached to the roof, are instances of the other.

Both these classes are objectionable. The instruments of the first class support the body, but not with sufficient power; and, although they permit general exercise, they so bind down the muscles of the trunk, so compress the abdomen and chest, as to be sometimes useless, and often prejudicial. Their weight, too, added to the weight of the trunk, is often more than a debilitated patient can bear.

The objections to the ordinary instruments of the second class, are still more formidable. Whilst they forbid all muscular exercise, and thus increase constitutional debility, they are too confining and irksome to be long borne by any patient. Hence, the most recent writers condemn the use of such means, or acquiesce in their application only under severe restrictions.

To attain the same end, that of keeping the spine in its natural shape, Darwin recommended the recumbent posture, during several hours of every day. This suggestion was followed out by Mr. Baynton, by whose recommendation the patients were confined to the horizontal posture for months, and, in some cases, for years. The inclined plane was supposed to be an improvement on this practice, both because the cephalic system suffered less from congestion, and because the inclined posture was more favourable to the elongation of the spine. In Paris, the two modes of practice have been combined. While the patient is laid in a horizontal

posture, braces are applied to the head and shoulders, and to the pelvis, so as to cause extension of the spine. The total want of exercise exhibits this practice in an unfavourable light. In consequence of it, the digestion is impaired, the circulation languishes, the muscles are weakened, and there ensues a "degeneration of all the joints." One of the most celebrated writers on curved spine, declares, that a soft state of the vertebræ exists only in those cases of lateral curvature, in which the patient has been long and strictly confined to bed: "but if the person has been in the habit of taking exercise, a short time previous to death, the bodies of the vertebræ are discovered to be as firm and compact as those in a perfect spine." Sir ASTLEY COOPER, himself, has affirmed, that he never knew a single instance of cure of *lateral curvature* by the use of the inclined plane. For these reasons, the most recent European writers on this subject, admit, that the inclined plane is falling into disuse and discredit.

Hence, all the means heretofore proposed, for extending, and keeping extended, the deformed spine, have been found inadequate to the cure of the disease; and so hopeless does the subject appear to our most eminent practitioners, that one of them very recently remanded to the country, as incurable, two cases of this kind, which had been brought in for his inspection.

The instruments most likely to be useful in cases of lateral curvature, are such as extend the spine, transfer to the *ground*, or some other *extraneous* supporter, the weight of the upper portion of the body, and leave the patient the full power of locomotion or muscular exercise.

Such instruments, if judiciously and timeously applied, cannot fail to prevent deformity. Whilst they correct the curvature for the time, and thus remove the mechanical disadvantage under which a bent spine la[illegible]urs, in resisting the superincumbent weight of the parts above it, they afford the patient the full enjoyment of exercise, and an opportunity of employing all other means promotive of health and vigour.

Fig. 1, of the annexed plate, exhibits an instrument of very simple construction, which combines all the advantages enumerated. It consists of a ring of wood, *c*, of greater diameter than that of the body of the patient, supported by four legs, terminating in wheels or castors, after the fashion of a common go-cart. To enable

the child to enter it with facility, it is divided into two semicircles, united at one extremity by a hinge, and having clasps to close them at the other extremity, *c*. To the ring is attached a square steel or iron socket, *b*, in which is inserted the strong steel rod, *a*.* The rod being susceptible of movement in *b*, may be elevated or lowered, and fixed in a proper situation by the screw at *b*. To *a* is appended the steel head-piece, represented at *d*, fig. 2, intended for the support of the straps represented in fig. 5. If deemed necessary, straps may be appended to *a*, so as to afford a support for the shoulders, as well as the head.

Much has been said by authors, of the irritating and excoriating effect of the straps used to support the head, in the corset and steel-rod apparatus: but I have not seen any difficulty arising from this cause, since, at the suggestion of the mother of one of my little patients, I had the straps made of silk. For the information of those who may not have seen these straps in *any* apparatus, I have directed their delineation in fig. 5. *i*, Represents that part which supports the chin, and *k*, that which is applied to the back part of the head.

Supported by this apparatus, the motions of which are remarkably easy, the little patient may enjoy exercise without fatigue and without pain, and engage in the sports of his associates. For a few days, the erect posture and confinement of the head occasion some expression of impatience, but they cease to be considered evils; and the instrument becomes a kind of toy, in which the child is desirous of exhibiting certain feats of agility.

In no one case has it hitherto been found necessary to confine any patient to a machine for more than four hours a day, and that for one hour at a time. In some cases, the children have not been placed under any restraint, during the remaining portion of the day; but in others, it has been found necessary to place them on couches, or inclined planes, or cause them to remain for a certain time in such a chair as that represented in fig. 2. Very few cases, however, demand more than four hours confinement to the spine-cart, or any other apparatus.

* The socket for the case of a child five years old, may be made three-eighths of an inch square, and ten inches long. The rod, fitted accurately into the socket, should be of such a length as to descend to the bottom of the socket, at the commencement of the treatment, and admit of gradual elevation.

As it is particularly desirable to give exercise to the muscles of the trunk, especially those of the spine and back, several other instruments may be found useful. Of these, the spine-swing, fig. 4, and the spine-horse, fig. 3, will be found particularly useful. The motions necessary to propel either, are made chiefly by the muscles of the trunk, and these motions are made in such instruments with pleasure and facility. As the suspensory band limits the motions of the body, the swing or horse requires to be put in motion by an assistant; after which the patient can easily keep it up. To suffer the patient to remain in any apparatus of this kind without keeping it *in motion*, is to lose a great portion, if not the whole, of its usefulness. In the *spine-cart*, the child seldom chooses to remain at rest; but he sometimes neglects to keep his *swing* or *rockers* in motion.

For the purpose of affording greater variety of amusement, the seat of the spine-horse has been made moveable, and is represented separately at *g*. The patient may, when the seat is removed, stand on the platform, *f*, and rock the horse; or, by inserting the leg, *e*, into the aperture, *f*, he may be seated, and perform similar movements.

The shafts of the swing should, for an obvious reason, consist of wood. The cross-piece, *l*, should revolve on pivots, so as to afford greater freedom of motion. If this be not done, then, instead of attaching a stiff iron rod to the head piece of the little girl, attach the head piece to *l*, by a string.

The degree of suspension is, perhaps, one of the most difficult points to ascertain, in the management of these cases. I have usually made very little extension for the first week; but have thereafter elevated the rod from one-eighth to one-fourth of an inch weekly, in proportion to the yielding of the spine. The progress in the reduction of the curve is, of course, more rapid at first; but as the curve is lessened, the mechanical advantage of the suspensory apparatus is equally diminished; and its effect is also resisted, when that degree of curvature is removed, which depended exclusively on causes having no relation to change of structure. But when a remnant of deformity is kept up by a change in the form of the vertebræ, and their *intermedium*, the operation of the remedies must be as tedious as was the disease during its formation. When there is caries, we must wait for the

production of new bone to support the wasted column; and when there is, without caries, a wedge-like condition of the vertebræ, we must rest on the slow, but certain, processes of absorption and deposition, for a final cure. If undue pressure on one side of the column, produces the deformity, the removal of that pressure to the other side, must ultimately correct the distortion.

For the fulfilment of the second indication, nothing more seems necessary, than to use the means suggested for the first. Cases *may* occur, of so violent and intractable a nature, as to demand continual support. Such must be kept, during the whole period of treatment, in one or other of the many instruments designed for the suspension of the head, and which at the same time interfere not with either general or partial exercise.

But the mere suspension of the head and upper part of the trunk, will not alone remove the disease. Such a measure obviates one effect of a disease, which must be cured by time or the skill of the physician. To effect a speedy cure, attention must be paid in this, as in all other cases, to the causes and symptoms. The immediate cause of *posterior curvature* is usually a carious condition of some of the vertebræ. In all such cases there is more or less inflammation of the parts adjacent. Rest, counter irritants, and, if necessary, depletion, may be resorted to, with the effect of so far removing pain and irritation, as to permit the use of means calculated to lessen existing, or prevent increasing distortion.

The immediate cause of *lateral curvatures* is yet a subject of doubt and discussion. Mr. Shaw, who has written a very valuable work on the subject of lateral curvatures, denies the existence of any specific spinal disease in such cases; and ascribes the curvature to errors in posture, whilst sitting, standing, or sleeping—to the too frequent use of the right side of the body, and other similar causes acting on a debilitated fabric. Dr. Jarrold, of Manchester, on the other hand, attributes it to a specific disease of the intervertebral substance, and not to any affection of the bones, muscles, or ligaments, nor to general debility, nor errors of position. One of the immediate effects, however, of such a curvature is, the diminution of the height both of the vertebræ and intervertebral substance, on the concave side, so that the vertebræ become of a wedge-like form. This is owing, in part, probably, to

absorption, at least of the inelastic bodies of the vertebræ, caused by unusual pressure on that side. The degree of *extension* applied to the convex side of the curve, may also co-operate, by the elongation of the elastic intermedium, and subsequent deposition of interstitial matter. If these views be just, then the beneficial influence of a strong suspension will be better appreciated. Forbidden, by the nature of my essay, to enter fully on the consideration of this subject at present, I shall act on the supposition that the pathology is unknown, and proceed to an examination of the symptoms.

In *all* the cases which have fallen under my observation, symptoms have pressed upon my attention, which showed a diseased state of two of the most important functions of the system. Loss of appetite, constipation, an exceedingly foul tongue, and a fetid breath, exhibited a depraved condition of the function of digestion;—a harsh, rough, scaly, and sometimes eruptive skin, manifested an imperfect action of the cutaneous organ. To remedy these symptoms, it has been customary to resort to the use of tonics, and especially the chalybeates, which, indeed, *had* been given in some of the cases, before they fell into my hands. Finding that my patients commonly grew worse under such treatment, I endeavoured by a course of active catharsis, accompanied by a generous and nutritive diet, to afford a natural and agreeable stimulant to the stomach, and prevent the bowels from suffering under an accumulation of *sordes*. In the choice of a cathartic, I was governed by the case; but found that, of all cathartics, the following produced the best effect at the time, and undoubtedly was more congenial to the system during a protracted use of purgatives:

R. Jalap, one part.

Supertart. Potass. two parts, ms.

ss. To be given every night, for a week, or according to circumstances; and thereafter, every alternate night, for months, or whilst required. The dose should be so graduated as to produce two or three evacuations.*

* My friend Dr. Thomas Harris, in certain cases, applied with remarkable effect, the remedies suggested by Dr. Jarrold. Extract of hyoscyamus, burnt sponge, carbonate of soda, and nitric acid, given in various forms, constitute the greater part of Dr. Jarrold's plan of cure.

To stimulate the function of the skin, I usually recommended a cold bath, formed of lime water, holding in solution a quantity of muriate of soda, to be applied once, and sometimes twice a day, during the whole period of indisposition.

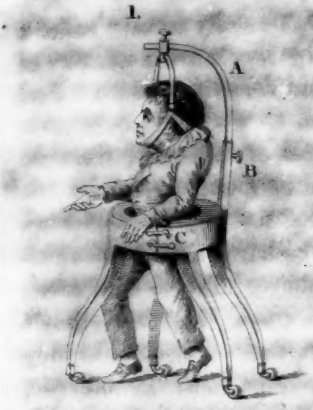
To excite both the skin and muscles of the back, frictions, champfooing, and percussion, will often be found useful.

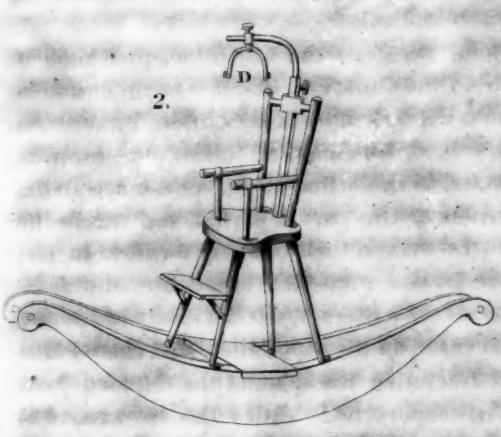
Although, without a single exception, the *children* under my care were improved by the use of the cathartic already mentioned, patients at and above the age of puberty have, in most cases, suffered from its application. In such cases, Mr. Abernethey's laxative pills will be found an agreeable substitute;—but as they contain a mercurial ingredient, great caution must be observed, lest, by touching the system, its irritability should be augmented, and a cure rendered more difficult.

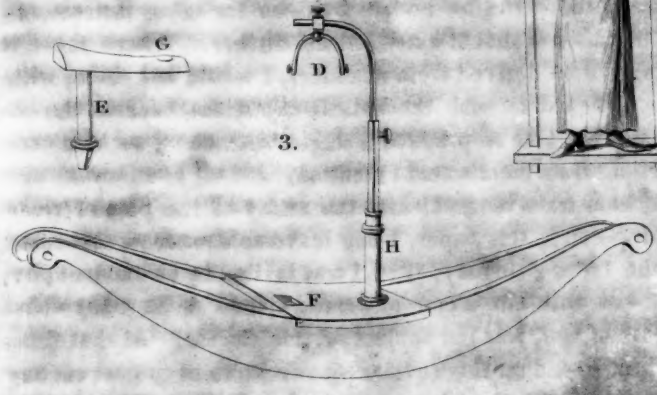
One of the most useful results of the attentive application of strong extension, has been the discovery, that it is as applicable to *cases of caries*, as to those dependent on other causes. I have seen no case of *posterior* curvature, which did not cease to cause pain, so soon as it was subjected to the action of the spine-cart. Irritation ceased, the tenderness of the part departed, and where the legs were affected, they recovered their ordinary powers. In fine, to all appearance, there ensued a complete suspension of the diseased processes. The recent writers object decidedly to the use of suspension in carious cases, on the supposition, that there exists considerable danger of fracturing the spine at the diseased part, even after anchylosis has supervened. After the occurrence of anchylosis, there can be no good reason for using instruments, unless the disease should extend itself further. Where there is advantage to be derived from machines, I would use them, without much regard to such theoretical objections, because the objectors are not able to produce a single instance of such an accident arising from mechanical extension.

To demonstrate more clearly the utility of the plan of treatment proposed in this paper, I beg leave to describe a few cases.

On the 1st of February, 1824, I was invited by an eminent physician to see with him a case of curved spine. A. S., a boy about five years of age, was the subject of this disease. At that time, his occiput rested on the *vertebra prominens*, so as to prevent any portion of his neck from being visible from behind. The pressure







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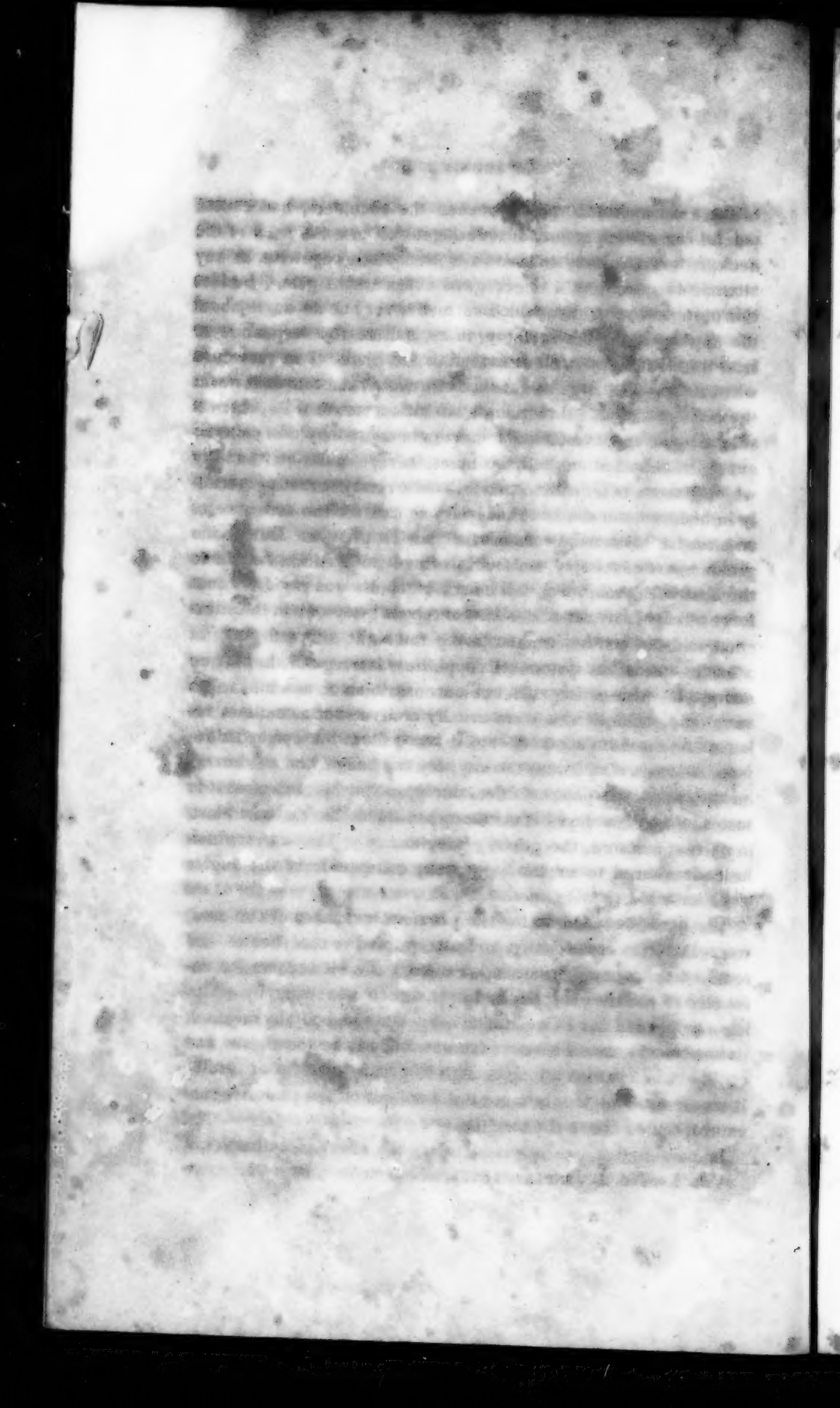


of the head upon the space between the shoulders, had caused painful excoriation. In endeavouring to cleanse the back of the neck, it was necessary to insert a wetted cloth edgewise, as any attempt to introduce a finger gave considerable pain. Besides this posterior curvature, which formed a very acute angle about the uppermost dorsal vertebra, there existed the serpentine or lateral curvature, so well described by Mr. Shaw. This curvature was convex towards the right shoulder above, and convex towards the left hip below, a direction of lateral curvature from which it seldom, if ever, deviates. At the angle caused by the *posterior* curvature, the patient felt, at times, severe pain, particularly when in motion. Indeed, so painful was a rotary motion, especially in bed, that he found it necessary to call for the assistance of an attendant, when desirous of changing his position. During the greater part of the day, he sought refuge from pain in bed, or in the arms of his mother or his nurse. His pulse was rapid, without force or regularity. Exacerbation of febrile symptoms in the afternoon, and colliquative sweats during the night, afforded proof of a hectic state of his system. His appetite was irregular, his tongue encrusted with a moist, russet-coloured substance, and his breath very fetid. His bowels were usually costive, but sometimes relaxed. At times he complained of *severe* pain in the epigastric region. His skin was, during the day, dry and rough, and was covered with bran-like spots, as if the cuticle were separated from it in scales. For a few days before the consultation, the child had lost, in a great measure, the power of deglutition. The water which he endeavoured to swallow, generally escaped from the angles of his mouth.

The remedies used during the previous treatment of this case, were laxatives occasionally, and afterwards the chalybeates, and some other tonic medicines. The child, before it became too enfeebled to endure exercise, had been directed to swing, by grasping a suspended bar of wood, and supporting its body by means of its hands and arms. This exercise was found to be too violent, and could not be continued long enough to produce beneficial results. It was less useful, too, because it did not act on the posterior curvature, seated above the scapulæ.

In consultation, we resolved to try the effect of cathartics, a

generous diet, and such suspension as would relieve the patient from a portion of his weight, and at the same time permit him to take exercise. Accordingly, the cathartic of supertart. potass. and jalap was given every evening.* During its use, the tongue became clean, the breath sweet, the appetite and digestion good, the strength and spirits improved, the visceral pain gradually diminished, disappeared, returned no more; and one of the chief obstructions to a cure of the local disease was thus removed. To remedy the diseased state of the skin, the patient was bathed in lime water, holding common salt in solution: and to stimulate the disordered parts into more healthful action, the spine was rubbed carefully every day. The *mechanical deformity* remained to be prescribed for; and this was treated by the chair with *rockers*, and the spine-cart. After a short time, the child refused to sit in the chair, but continued to use the spine-cart for four hours a day. From the moment at which these means were applied, there was exhibited a gradual melioration of all the symptoms. The curve became less and less conspicuous—that which was *lateral* entirely disappeared; and there now remains of the *angular projection*, only enough to show where the disease had been seated.

On the 2nd of June, I deemed professional attendance no longer necessary; and to this day, the child remains robust, active, and cheerful, without any deformity, which would be observed by those who had not been acquainted with the previous history of the case.

Shortly after the commencement of the cathartic course, it was not thought necessary to continue it daily. Cathartics were then given on alternate nights, until I ceased to attend the case. Two

* After exhibiting this medicine in many different modes, I finally fell into the practice of leaving the regulation of the dose entirely in the hands of the nurse or mother. To do this, the apothecary was instructed to furnish half an ounce of powdered jalap, carefully mixed with one ounce and a half of supertartrate of potassa. The attendant was directed to divide a heaped teaspoonful of the powder into, in *this* case, four parts, and to begin by exhibiting one part, but afterwards to give more or less, according to circumstances, so as to produce more than one, and less than four alvine evacuations after each dose. So long as I caused the division to be made by an apothecary, the attendants seemed to dread any alteration of the doses—an alteration which they readily effected, when they themselves made the division.

or three times during the period of recovery, there appeared certain unfavourable symptoms, such as cough and impaired digestion; but the *daily* exhibition of the cathartic soon removed them.

Several other cases, resembling the above, in the *angular* and *lateral* curve, the impaired digestion, and roughened skin, have been treated with equal success. One of them, the case of E. F. fell into my hands on the 4th of September of the present year. The patient is, at the date of this paper, in good health, and rather more than two inches taller, in consequence of the straightening of the curve.

One of the most difficult and intractable cases I have yet encountered, was that of E. C. a girl four years old. This child had a posterior curvature, seated nearly in the middle of the back—and a serpentine curve so great, as to cause the lower ribs to repose on the crest of the os ilii of the right side. The projection of the shoulder and hip was such as to excite the notice and sympathy of every one. This child had been attended by two experienced and skilful physicians; who, after using rhubarb for a long time, proposed to the parents the use of the common stays, with steel rod and head piece. A careful inquiry into the effects of this practice in other cases, led, however, to objections, and the final abandonment of the scheme. In the meantime, certain cases, in which the practice detailed in this paper was used, came under the notice of the parents of the child; and with the full consent of both physicians, the little patient was placed under my care. The judicious treatment had previously given sound general health to the child, and it was well prepared to receive benefit from the spine-cart, &c. Observing some remains of cuticular roughness, and a remnant of constipation, purges and the lime bath were directed, and continued from the 18th of March, 1825, when I first saw the child, up to the present day. From that period, there has been, with two exceptions, a progressive improvement in the case. The child remained about four hours a day in the spine-cart, and was left at liberty during the remainder of the time. At present, the dorsal prominence is small, and apparently diminishing; and although the child still exhibits some lateral curvature, *when it is off its guard*, it is able to carry itself,

when it chooses, nearly in an upright manner. While *in* the spine-cart, no curvature of this kind is perceptible.*

James H. a boy aged about seven years, was brought to me in May, 1824. He had evidently a disease of the middle dorsal vertebræ, by which the bodies of two, at least, of the bones, appeared to be affected. A shuffling gait, observed about six weeks before, led to an examination of the case, and a physician at New Castle discovered the curvature. In this case, one of our most eminent physicians advised issues; but as the mother was predetermined not to use that mode of treatment, the child was brought to me, to be placed in a spine-cart. One was accordingly obtained; but was not used regularly, because of the unwillingness of the boy to submit to any restraint. The progress of the complaint was rapid, notwithstanding the use of purges, baths, &c. At length, the lower limbs began to fail in their office, and the poor boy was compelled very frequently to throw himself, for ease, on his face on the floor. When he ascended the stairs, he was obliged to go on all-fours. At this time he expressed greater willingness to endure the restraints of a machine, because he found himself more comfortable when in one. In a few days, strength and facility of movement returned; and since that period, no increase of curvature has been perceived. His general health is now good, and he has a remarkably robust appearance. It may in this place be proper to remark, that in every case, except one, in which these machines have been applied, either to posterior or lateral curves, the tone and vigour of the system have been immediately restored, and the pain and tenderness of the parts more immediately concerned, have disappeared.

The following case, attended by Dr. Henry Bond, of this city, affords a remarkable instance of the good effects of the spine-cart, when applied with skill and perseverance.

The subject of it, Elizabeth O'Brien, was born on Christmas day, 1819, and walked when nine months old. In the course of

* In this case, the carrying a weight on the head will be used to rectify the *habitual* bending of the body; and if this should fail, the child will be kept for longer periods of time, in the spine-cart. It is, perhaps, worthy of observation, that in the progress of this case, also, when from unknown causes the child seemed worse, the *daily* exhibition of the usual cathartic removed the unfavourable symptom.

her second year, *cholera infantum* of long continuance so debilitated her, as to prevent her from walking. Late in the autumn of that year, and during her recovery from the summer-complaint, the child's mother perceived a small protuberance about the middle dorsal vertebræ. The child was then subjected to the use of caustics, blisters, cathartics, &c. &c. For about a year, or rather more, the child continued to move on its hands and knees; and about two years ago, was able to walk, by resting her hands on her thighs above the knees, and continued this disagreeable mode of progression for nearly a year; when, by the application of *moxa*, such an improvement ensued, as enabled her to walk for a short time without the support of her hands. From that time until about the middle of September of the present year, she was without medical aid, and her disease continued its progress. The spine became more crooked, the sternum more prominent, so as to increase considerably its distance from the spine, and to lessen the *breadth* of the chest. The shoulders projected upwards almost to the ears.

In this state Dr. Bond found her in the middle of September, and applied the spine-cart, ingeniously modified by himself. I shall now quote him.

"I elevated the rod as high *as she could bear* it. She became fond of it, and sometimes remained in it nearly the whole day. Before the 1st of October, the mother had raised it an *inch* higher, and there was so much improvement in her walking, as to attract the attention of her neighbours. In October I raised the rod about three-fourths of an inch. At the end of six weeks, she continued to improve, but not so rapidly as at first.

"November 13th, 1825. I have seen her to-day, and find her still improving. The protuberance of the spine is much smaller; the shoulders are becoming broader, and approach very nearly to their natural conformation. She is apparently much taller, and less deep in the chest. Before the application of the apparatus, she dragged one foot in walking; and when she stood up, the heel of that foot did not touch the floor. She now uses one as well as the other. The mother made her corsets, which she has worn for a few weeks, and which are probably beneficial. The size of the chest is so much lessened since the corsets were applied, that

they are now too large for her, and are loose when the edges are drawn together. This does not arise from loss of flesh. She is as yet placed in the apparatus every day, but is confined in it for a shorter period than at the commencement of the treatment. Her unwillingness to remain in it does not appear to arise from any pain or distress produced by its use, but from the confinement and restraint, which interfere with her amusements. A more assiduous use of the apparatus would have undoubtedly produced a greater effect; but considering the long standing of the case, its use has already equalled my most sanguine expectations. The apparatus has been elevated about one inch to-day, as I am informed by the mother, and it is my intention to continue its use for several months."

ARTICLE VI.—*A case of temporary loss of power over the Muscular System. Arranged from the Notes of* Dr. MONGES, *of Philadelphia. With Remarks, by one of the Editors.*

A. I. M. about 54 years of age, of a sanguine nervous temperament, and who had been labouring for some time under chronic inflammation of the lungs, was seized unexpectedly, in the year 1813, with apoplexy; from which, by means of the usual remedies, he was relieved. His left side, however, remained imperfectly paralyzed—sensation continuing unimpaired, and the power over the muscles not being completely lost. Nevertheless, whenever he attempted to make use of the limb, it felt, to use his own language, "as if it did not belong to him." From the period of this attack, he continued to complain of a great determination of blood to the head. The carotid arteries were sensibly enlarged, and their pulsations, as well as those of the vertebral arteries, morbidly increased; and when he inclined his head on his pillow, or against a wall, or back of a chair, they became very distressing. Independently of this, he experienced so unconquerable a drowsiness, as to fall asleep in the midst of the most entertaining conversation. Under these circumstances, he was much troubled with noise in the head; which he very often compared to the sound of

a kettle drum at a distance, and could not incline his head in the least degree downwards, without instantly suffering from vertigo.

It is unnecessary to detail the treatment adopted for the removal of this morbid state, as it did not vary from that usually resorted to in similar cases. Nor should pains have been taken to detail symptoms which must be so familiar to all practitioners, had they not preceded and accompanied others of less frequent occurrence, and which, it is believed, will not prove destitute of interest to the readers of this Journal.

About a month after the attack of apoplexy, and whilst suffering under the cephalic affection just described, the patient presented the following symptoms. When in a recumbent posture, and laying on his back, he would suddenly lose all power over his muscular system, and was, in fact, in a state allied to paralysis. If his eyes were open, as they often would be, at the moment of the attack, he saw perfectly all that was going on around him; and always heard distinctly every thing that was said near him, as well as the piano in the parlour under his bed-chamber, or the servants conversing in the adjoining room. During these attacks, the intellectual faculties acquired activity. Entertaining the idea, that this state was the forerunner of death, every object of interest to him would revert to his mind with great rapidity. His children would be a subject of frequent thought; and in very many instances, circumstances that had entirely escaped his recollection, and of which, in another condition, he would probably not have thought, would recur to his mind. Whilst thus situated, his ideas were as clear as in the interval of the fits, and the recollection of them afterwards was perfect. He often made every effort imaginable to speak or move, but invariably failed in the attempt. Nor did he experience any unpleasant sensations in any part of his body, with the exception of the cerebral symptoms already described; but the mental anxiety, arising from a reflection on his present condition, was inconceivably great.

In respect to the duration of the paroxysms, it is difficult to form a correct idea; though, from many circumstances, the patient is led to conclude that it did not exceed ten or fifteen minutes; and their cessation was announced by a sensation of pricking in the skin of the feet, which, in a very few seconds, pervaded the whole body, and extended as high up as the scalp. Whenever this oc-

curred, the power of volition suddenly returned; and the patient, happy to be freed from so distressing a state, and aware that it never returned whilst he remained in an erect or sitting position, would spring out of bed, and make a trial of his faculty of speech. These attacks never occurred more than once in the course of four and twenty hours; sometimes in the day, at others in the course of the night; nor did they manifest any regularity in respect to the intervals between their return.

After distressing the patient in the manner described, during more than two years, they finally disappeared, together with the cephalic symptoms to which we have alluded. As the assistants were never aware of the exact moment of the attack, it was not ascertained whether the limbs would retain, as they do in catalepsy, the position in which they are placed; but from his feelings, and inability to govern his muscles, the patient is inclined to the belief, that, had the experiment been made, such would have been found the case. It is proper to mention, that the patient recollects to have had, when only seven years old, an attack bearing some analogy to the disease we have described. It seized him whilst walking—continued but a few moments, and did not appear again until the present attack.

REMARKS.

As we are familiarly acquainted with the subject of the foregoing case, we shall take the liberty, with the permission of Dr. Monges, to subjoin a few remarks on this very interesting malady.

A little reflection, we trust, will be sufficient to show, that the disease just detailed bears some analogy to catalepsy, and to the morbid state described by many authors under the name of *ecstacy;* since in both these there is a complete loss of power over the muscular system. At the same time, however, it cannot have escaped attention, that it presented some phenomena which are not met with in ordinary cases of catalepsy. Thus, in catalepsia vera, there is an instantaneous loss of sensation, as well as of power of volition—the patient neither hears nor sees, and on recovering his senses, has no recollection of any thing which oc-

curred during the paroxysm. The disease detailed, presents a stronger resemblance to the second form of malady we have mentioned above; we mean ecstacy. But even with ordinary cases of this malady, as described by authors, it differed in some respects.

It must be familiar to most of our readers, that there exists in medical writings, no inconsiderable confusion on the subject of ecstacy, as the term is employed by authors to denote very different states of the system. Thus, by HIPPOCRATES it was made use of to denote alienation of mind, or even the delirium of acute disease; whilst by SENNERTUS and SCALIGER, it was regarded as synonymous with enthusiasm. By others again, it is employed to designate "a state of the brain, during which the individual, occupied with one idea only, and given up to the contemplation of one object, becomes insensible to the action of all other stimuli." By which definition, it appears to be held by them as analogous to a state of revery. Most commonly, however, at the present day, the term is had recourse to, to signify a condition of the system having some resemblance to catalepsy.

As might have been expected, some nosologists, in their great eagerness to discover and frame new orders and genera, have not scrupled to constitute this disease into a separate genus, distinct from catalepsy. This has particularly been done by SAUVAGE, GOOD, YOUNG, &c. Some other writers, among whom we may signalize MEAD, CULLEN, and COOK, have regarded it as a species or subdivision of apoplexy; and Dr. CHEYNE, of lethargy. A majority of writers, however, agreeing in sentiment with VOGEL, BURSERIUS, and PINEL, have regarded it, we believe not improperly, as an imperfect or spurious catalepsy. The first variety of SAUVAGE, *ecstatis catoche*, is evidently the catalepsy of VON HEERS and of TULPIUS. Speaking of ecstacy, MOTHERBY says, "It is considered as a species of catalepsy, with this difference, the cataleptic has no perception of what passes during the paroxysm, nor any remembrance thereof when it is over; the ecstatic remembers the ideas perfectly which he received during its continuance." The same definition of the disease has been given by Dr. PARR; and at a still later period, by NYSTEN. But although in their description, we discover some resemblance with the case before us, we find, on examining the

writings of Sauvage, of Bosquillion, &c. that other symptoms are enumerated as appertaining to ecstacy, which were not noticed, and others wanting which we may safely infer would have been found in the present case, had an experiment been made. Thus, agreeably to the first of these writers, ecstacy is distinct from catalepsy in this respect, that although the limbs of the patient remain in the position in which they happened to be at the moment of the attack, they do not assume the one in which they may be placed subsequently.

According to these authors also, sensation is destroyed. Many cases described by Sagar, Hoffman and other writers, might be cited in support of the correctness of this statement. Dr. Good, one of the latest writers on the subject of catalepsy and ecstacy says, in his study of medicine, "in both cases the torpitude of the external senses appears to extend to the mind, for the patient, on returning to himself, has no recollection whatever of any train of ideas that may have occurred to him during the fit." The difference between the two diseases being, agreeably to him, that in ecstacy the muscles are thrown into a rigid and permanent spasm, not incurvating the body as in the different modifications of tetanus, but maintaining it erect from an equal excess of supply (of nervous fluids) to the extensor and plexor muscles; whilst in catalepsy, on the contrary, while some muscles appear sufficiently supplied, (with the motific fluid,) the action of others, and even of the involuntary ones, is often peculiarly weak. Whence also, the limbs, instead of resisting external force, yield to it with readiness, and assume any position that may be given to them. In another part of the same work he says of ecstacy, that in it the mind is dead to every thing but the train of ideas which immediately constitutes the subject of revery.

It must be evident to every one, that Dr. M's case differs in many respects from the description of ecstacy as given by the foregoing writers; since the patient so far from being affected with a torpitude of the senses or mind, or having only a recollection of the train of ideas which immediately constituted the subject of revery, retained the remembrance of every thing that occurred around him, and saw and heard as well as in health.

The author of the article catalepsy in Rhees' Cyclopedia says, that frequently in that disease, the loss of sense is only partial, and

in some instances the senses all remain undiminished, while the voluntary motions are altogether suspended; so that although the patient is conscious of every thing that is passing around him, he is unable to speak or move, or in any way make known his feelings or wishes. Dr. Good also has remarked, in treating of catalepsy, that some examples of ecstacy, and even of catalepsy are met with, in which some of the senses, mental as well as corporeal, do not associate in the general torpitude. This circumstance was noticed by some of the older writers. More than a century ago, Sennertus, who, like most of the ancients, confounded the two diseases, says, in his description of catalepsy, that when the disease is not violent, the patients see and hear in a *feeble degree*, and retain the recollection of what they have seen or heard. But he adds, they have neither the power of speech, touch, or motion. Tissot, regarding ecstacy as a species of revery, and thinking that it is usually a feigned disease, divides catalepsy into three species: 1st, the perfect catalepsy, or that in which there is a complete loss of the senses: 2d, the imperfect, or that in which the senses are retained to a certain degree: 3d, the compound, in which the disease is complicated with symptoms appertaining to other diseases. (Traité des nerfs et de leurs Maladies, tom. 3, p. 2.) It is evident that the second species comprises the form of disease now denominated ecstacy, and that it is in this class we must include the disease described by Dr. Monges. In a very singular case mentioned by Tissot, the patient did not see, but sometimes was enabled to hear sufficiently well to recognise several of those around her by the sound of their voice. (p. 15.)

We find in Galen (Comment in Prorrhetic, l. 1, ch. 56,) the case of one of his pupils who was attacked with a similar disease, occasioned by intense application to study. He remained motionless and stiff as if he had been made of wood. He could not speak, his eyes were open and fixed. When he recovered his senses, he informed his attendants that during the paroxysm, he heard and saw, though imperfectly; and even described a part of what had been done around and for him. But it does not appear, however, that even in these cases the operations of the mind were as perfect as in the case detailed above, and that the mind could, as in the latter, be occupied with a reflection on the condition of the body. A much more interesting case, and which approaches

nearer to Dr. M's, is described in DUNCAN's Medical Commentaries. (Vol. 5, p. 436, Am. Ed.) In this case the patient, a female, remained more than four hours in complete possession of her mental faculties, but deprived of the power of moving a single muscle of her body. She was in the distressing condition of finding herself given up by her attendants as dead; of being laid out, with her toes tied together and her chin tied up; and of hearing certain arrangements for her funeral talked of: yet she was unable to make the slightest sign of her possessing sense, feeling and life. But even in this case there were some symptoms absent in Dr. MONGES's, as the pulsation of the heart and arteries, in the former, were absent; whilst in the latter, the internal sensation of pulsation, especially of the arteries of the head, was very evident. Dr. FITZPATRICK's patient also, according to his statement, could not see, whereas sight was unimpaired in Dr. MONGES's. Nor did the disease in both patients differ less in the number and duration of the paroxysms than in their mode of termination.

The predisponent causes of the present case were precisely those of ecstacy, as mentioned by Dr. GOOD; viz.: a highly nervous or irritable temperament. According to the same author, the exciting or occasional causes of ecstacy are more usually of a mental character; as profound and long continued meditation upon subjects of great interest and excitement, terror or other violent emotions of the mind. It seems also to have proceeded, like most spasmodic affections, from various corporeal irritations, and particularly those of the stomach; suppressed menstruation, repelled chronic eruptions, and plethora. In a case which occurred in this city not many months ago, the patient had but one paroxysm, and it seemed to depend on irritation of the bowels, arising from the presence of tænia. In another case, the exciting cause seems to have been a violent emotion of the mind. The attacks recurred frequently, and were often excited by very trifling causes, such as the smell of an extinguished candle, &c.

In respect to the pathology of the disease we have described above, we avow our ignorance. The diseases of the nervous system are so involved in obscurity, that no one, as yet, can pretend to have offered a satisfactory explanation of their phenomena. It is true, that the researches of ROSTAN, LALLEMAND and OLLIVIER, have thrown some light on the subject of the affections of the

brain and spinal marrow, the primary seat of most nervous affections; but much yet remains to be done. All that Dr. Good, and other theorists, have said on the subject of the nature of catalepsy and ecstacy, amounts to nothing: nor do we think much more will be accomplished until we are better acquainted with the physiology of the nervous system. In the case above described, the exciting causes were very evidently local irritation and plethora of the membranes or substance of the brain; unless the irritation of the lungs may be thought to have had some influence in the production of the symptoms. The imperfect paralysis and cephalic symptoms plainly indicate this. But what the precise alteration was, and how the nerves of volition and perhaps of sensation could be so suddenly affected and relieved, the mind remaining unimpaired, we leave to the sagacity of our readers to determine. It differs widely from the majority of cases of ecstacy and catalepsy on record, in the frequency of the fits, though more particularly in the manner in which they went off. The duration of the fits in ecstacy, says Dr. Good, varies from a few hours to two or three days. The patient rouses as from a sleep, seems languid and complains of nausea and vertigo. In the present case, on the contrary, the fits never continued more than a few minutes, and their cessation, so far from being followed by languor or any unpleasant symptoms, generally left the patient with comfortable feelings, and stronger than before. The sensation of pricking, felt at the termination of the paroxysm, is not mentioned by any writer we have consulted.

Notwithstanding the difference of symptoms detailed in the above case, and which may occur in the various cases of every disease, we are inclined to regard Dr. M's case as a variety of ecstacy, and this latter as a variety of catalepsy, and such we know to be the opinion of Dr. Monges. In concluding, we must beg to remark, in order to prevent any suspicion on the part of the reader, that the disease was a feigned one, that it occurred in the person of one of the most eminent physicians of this city, alike incapable of being deceived by his imagination, and of imposing on the credulity of others.

ARTICLE VII.—*Practical hints on the use of the Acetate of lead, in Dysentery, Cholera Infantum, &c. By* THOMAS D. MITCHELL, M. D. *of Frankford, Pennsylvania.*

A celebrated author,* speaking of the deleterious properties of the acetate of lead, observes, "that hardly any practitioner will now think of employing any preparations of lead as internal remedies." Contrasting this sentiment of a man of no ordinary foresight, with the experience of later times, we are led to admire the progress of medical science, and to anticipate a degree of perfection as not very remote, which may cover with the mantle of ignorance and folly, the practical views of the age in which we live.

It is not the design of the writer on the present occasion, to inquire fully into the uses of sugar of lead, but to restrict himself to a few points, in which the importance of the remedy has appeared to him to be considerable.

The earliest writers on the internal use of the sugar of lead, seem to attribute its remedial powers to a sedative agency, and this characteristic property appears to have guided the modern practice in the employment of the remedy in the various *profluviæ*. A certain Dr. HUNTDERMARK, sometime in the sixteenth century, wrote a treatise, *de sacchari saturni usu interno salutari*, in which he enforces its efficacy in abating high febrile action. Now, independently of any astringent property evinced by the acetate, it appears to be difficult to explain its curative agency, unless its sedative character be brought into the account. I have exhibited the medicine in cases where the successful issue might be properly explained on the ground of sedative action, but I have seen it equally fortunate in its operation, where the idea of such action could scarcely be admitted.

Such being some of the difficulties involved in the modus operandi of the acetate of lead, I propose briefly to state, apart from theory, what are my views of its utility in dysentery, cholera infantum, and a species of sore mouth which appeared somewhat as an epidemic, in the last autumn, and which resisted all the usual modes of treatment.

I had frequent opportunities of testing the efficacy of sugar of

* Dr. Cullen.

lead in the treatment of dysentery, in the last autumnal season, and my experience is fully confirmatory of the statements furnished by the few practitioners who have employed the remedy in that disease. I gave the medicine in no case until after the bowels had been freely evacuated by means of suitable cathartics, and then I administered it in combination with opium or with calomel and opium. I did not find it necessary, however, to give the acetate in such large doses as Dr. HARLAN employed,* and it appears to me that this necessity will always be obviated by the free exhibition of active cathartics and emetics. My plan has generally been to combine calomel and ipecacuanha, so as to produce the joint action of vomiting and purging, and that several times repeated. To an adult I have given five grains of calomel and six of ipecacuanha, every half hour, until three or four doses were taken, and the operation of these has been followed by an ounce and a half of the sulphate of magnesia. By pursuing this method (which must, of course, be reduced according to age, &c.) I have been able to succeed in removing the subsequent symptoms of pain, bearing down and bloody discharge, by employing one or two grains of sugar of lead, in combination with as much opium, once in three or four hours. Nor has this plan been restricted to adults; on the contrary, infants under eighteen months of age, have been treated in the same way, and the issue has been equally happy. Formerly, I managed dysentery precisely in the same manner as in the late season, with the exception of the use of sugar of lead, which I am convinced has improved the treatment, by accelerating the cure, and that too without any attendant disadvantage.

None of the cases in which I gave the sugar of lead, were of such a character as to require or admit of the use of the lancet. When circumstances justify venæsection, the acetate should not, in my opinion, be administered until after depletion by the lancet, and also the evacuation of the alimentary canal, as already stated. If much febrile action be present, the sugar of lead can do no essential service, until that action be properly subdued. Because, the *vis a tergo* simply considered, is amply sufficient to maintain a plethoric state of the small vessels on the inner surface of the

* Medical Recorder, vol. 5th.

intestinal canal; and the bloody discharges resulting from that plethora, as well as the actual inflammation of the parts, can never be effectually controlled so long as the excessive action of the blood vessels continues. In these respects, there is a close similarity to the case of violent inflammatory affection of the eye, in which leeches and cupping are not only inadequate to afford relief, if resorted to previous to general depletion, but are actually the occasion of augmenting the disease.

In a few cases, I administered the acetate in the form of julep, but am inclined to think that this is not so good a mode of exhibition as that above stated.

Several cases of bloody discharge from the bowels, have fallen under my notice, which could not properly be called dysentery, but which were speedily relieved by the acetate of lead and calomel conjoined. Two of the cases were infants within the month, and several others were from six to twenty months old. In all these cases, the evacuations were very numerous; sometimes consisting almost exclusively of blood, but more frequently of blood and thin watery feculent matter, mixed. The pain accompanying these discharges was not greater than usually attends a common bowel complaint. To the infants within the month, I gave about half a grain of calomel with a fourth of a grain of the acetate, morning, noon and night, and the disease yielded completely in less than two days.

In *Cholera Infantum*, the acetate has proved to be a safe and useful medicine. I am not aware that we have on record any recommendation of this article in cholera; at all events, the disease and the remedy are not to be found associated in any of the books with which I am conversant. Far be it from me, however, to put in the shadow of claim to originality in this matter. Mine is the humble task of walking in the path which another has marked out. The individual, who first exhibited the sugar of lead in cholera infantum, so far as my personal knowledge or general information extends, was an obscure practitioner in Montgomery county of this State. I learnt from him in the year 1818, that he had been in the practice of administering the acetate in small doses, for several years, both in dysentery and cholera, with great success. His commendations led me to make trial of the remedy, and the result was equally fortunate. In all cases, I com-

bined the acetate with calomel, which latter had previously been the almost exclusive remedy with which I encountered cholera. To an infant from ten to twenty months old, I gave from half a grain to a grain of calomel, with from an eighth to a fourth of a grain of the acetate, every three hours, and I have seldom found it necessary to continue the treatment longer than three or four days. The discharges are soon lessened in frequency and quantity, and much altered in their consistence and general aspect. I prefer, because most readily administered, the solid form, in giving medicines to children, but have occasionally combined the sugar of lead with calcined magnesia and mint water, in form of julap. The best way of getting infants to take the above, or any other powders, is to put them on the end of a finger previously wetted with molasses, and then to introduce the finger into the child's mouth, by which means nothing is lost.

Exhibited in the cautious manner above detailed, I have not known any unpleasant circumstance to attend the use of the sugar of lead, in a single instance; nor do I believe it to be, at all, a dangerous medicine in such cases.

I have not ventured to give the acetate in those cases of cholera in which the stomach mainly was affected, and where only a trifling looseness of the bowels was present, because I have found the calomel alone, to be the most suitable remedy. But where the purging is almost incessant, watery, and greatly debilitating, I have seen the sugar of lead, in conjunction with calomel, produce the most salutary effects.

What might be the effects of injections of the acetate, both in dysentery and cholera, I have not been able to determine; although I cannot doubt of their utility thus exhibited, if circumstances should exist to preclude the administration of the medicine in the more usual way. It is desirable at all times, to be in possession of remedies which have as little bulk and disagreeable taste as possible, and therefore further trials of the acetate of lead are desirable, inasmuch as the establishment of its remedial character, in diseases of the alimentary canal, would tend greatly to remove the supposed necessity of drenching our patients with large and nauseous doses.

I have hinted at the use of sugar of lead in a peculiar soreness of the mouth, which prevailed very recently, to a considerable ex-

tent, in my neighbourhood. This affection, though free from danger, was very painful, and almost entirely confined to females. It consisted, chiefly, in an unnatural redness and heat of the lining membrane of the mouth and fauces, attended with excoriation and occasionally small ulcers. It continued, generally, from six to eight days, and the ordinary remedies for similar affections, appeared to be of little service. I was led to make trial of the sugar of lead in these cases, by a statement not long since made of the efficacy of the article in checking profuse salivation. It occurred to me, that its effects there, depended on its sedative character, and that, as in the sore-mouth disease, there appeared to be some degree of inflammatory action, the same remedy might be applied on the same principle. I accordingly directed from six to ten grains of sugar of lead, to be dissolved in five or six ounces of rose or rain water, and the solution to be used frequently as a gargle. The effects of this simple remedy were quite astonishing; the disease was almost immediately checked. I have employed the solution in a sufficient number of cases to be satisfied of its efficacious and salutary tendency.

Thus have I presented very briefly, and without decoration, the result of my experience in the use of the acetate of lead in several morbid affections. To those who have more leisure, and greater inclination for the task than I profess, I cheerfully resign the work of harmonizing the practice I have detailed, with the theorectical views of the day; believing at the same time, that he who communicates the result of his observations faithfully, does his profession a better service, than he who expends the vigour of his intellect in defending theories.

ARTICLE VII.—*Account of a Catalepsy produced by Opium—Related by* CHARLES D. MEIGS, M. D.

October 30th, 1823. T. S., aged 27, went out after breakfast, in June last, to purchase some articles for his store. He made the purchases, and, being on his return, became suddenly bewildered, turned into a wrong street, wandered through the city all day, and strayed all night through lanes and by-ways in

the country, where he was met by a man who knew him, the next forenoon: being asked where he was going, "home," said he, but knew not where he was, or how to find his way home. He was brought to his house, and was rational, but very dull and stupid; being bled, he recovered in a day or two.

Last Tuesday night, being costive and afflicted with headach, he got some pills which purged him. Wednesday and Thursday his head ached, and he vomited thick, yellow bile, several times, but attended his store till 5 P. M., on the latter day, when he went up stairs, undressed himself, and got to bed. At 10 o'clock, P. M., his family being unable to wake him, became alarmed, and sent for me.

He seemed to be in a profound sleep; countenance and respiration perfectly natural; pupil much contracted; pulse large and regular, at 128 per minute. I forced* open his mouth with a spoon-handle, and found his tongue clean, moist, and of a healthy red.

Having lifted up his arm, it remained in any posture in which it happened to be left, no matter how apparently uneasy. The arms were very easily moved. I lifted his head off of the pillow; it remained so without falling gradually down: if he were made of wax he could not more steadily preserve any given attitude. The hands were cold, and the nails bluish.

No shaking, or even severe pinching and hallooing in his ear could make him evince any sign of sensation. Water sprinkled on his face caused his eyes, which were closed, to be closed more tightly, as in winking.

Supposing he had taken laudanum, I made all enquiries of the family, but these were almost hooted at, and I gave up the idea the more readily, as his steady, and rather religious turn, seemed to make it unlikely; in addition to which, I recollected his former bewilderment, and, therefore, began to attribute his present state of oppressed brain to an excess of that morbid condition which had before brought him under my notice.

I bled him 20 ℥, applied cloths out of iced water, to his head, two large sinapisms to his legs, and one to the epigastrium. In-

* Tissot relates several cases in which the jaws were strongly closed.—*Œuvres.*

duced by the cataleptic condition, I twice gave him some Hoffman's anodyne, without any effect, as *might* have been expected.

A stimulating enema was with difficulty administered, on account of a spasmodic closure of the sphincter muscle: it did not return.

In half an hour after, I counted the pulse; it was 112, which is 16 less since the bleeding. The mustard acted very powerfully on the skin, but he did not feel the inflammation, even when harshly rubbed.

Whatever deglutition was effected was the result of our perseverance, for he would not swallow a drop until several spoonfulls were poured into the pharynx, the tongue being pressed down and forwards with a spoon.

At 12 P. M., Dr. Emlen came to my assistance, the man being no better. We gave him tartar emetic, of which he took 10 grs. in four doses, at intervals of 8 minutes. It produced no vomiting or apparent nausea. As the tartar emetic began now to cause considerable borboygimi, we desisted, fearing the effects of sudden and profuse evacuations from the bowels, which sometimes produce very bad symptoms. At 3, A. M., the cataleptic symptoms were somewhat less evident: a second enema now produced purging, which was continued by unconscious discharges. At 4, A. M., six cups on the head bled very freely, but he did not wink at the stroke even of the scarificator. At 6, A. M., 2 episp. to the legs.

October 31st. At 9, A. M., he opened his eyes for the first time, but closed them after staring at different objects, without speaking.

At half past 3, P. M., he opened them again, and having said, "I took laudanum," relapsed into stupor or obstinacy, and remained so till seven o'clock, when he had violent pain from strangury. The catheter was necessary to relieve him of a large accumulation of urine. The catalepsy was gone, and he had no return of it.

November 1. He says ℥ ij were taken at 5, P. M.; it was weak, having been made in the house.

He recovered, soon after, a good state of health.

I think this case interesting by its relation to the attempt at suicide by opium, and also to Dr. CULLEN's opinion of catalepsy, viz.: that it is a simulated disease. Dr. C. arranged it with genus

apoplexy; it constitutes his 8th sp. apoplexia (cataleptica) muscularis, sub artuum a vi externa motu contractilibus.

He says he never saw any but simulated catalepsy, and believed that it is generally a simulated disease. He preferred, therefore, to place it as a species of apoplexy, rather than make a new genus of an affection so rarely seen, variously described, and frequently (at least) simulated. Vide Synop. Nosol. *

I am sure that under all the severe proof to which they were put, my patient could not have wholly suppressed his feelings if he had retained any sensibility; and I have no doubt that this was a genuine case, produced by *opium*. Dr. DARWIN mentions a case which occurred after the patient had taken much mercury: he recovered in a few weeks. Vol. II. 136. Dr. HEBERDEN's case lasted several months, returning morning and evening, almost every day. Commentaries 291. There is a curious case in the Dict. des Sc. Med. Dr. LUBBOCK, of Norwich, relates a most interesting case of catalepsy, in the Edinburgh Medical and Surgical Journal, for January, 1805. He has had repeated proofs of the genuineness of the symptoms which characterize this singular affection, and has seen two strongly marked examples in males. He seems to have been unsuccessful in the management of his case which had subjected the lady to frequent attacks, during about twenty months. He tried vol. alkali, galban., small doses of calomel, steel, digitalis, a strong emetic, and electricity, without effect. Travelling appeared to diminish the violence and frequency of her paroxysms. There were several peculiarities; among which was "something of the irregularity of the motions of the under extremities that characterizes St. Vitus's dance, but which soon went off."

TISSOT, in his treatise, details many evidently genuine cases.

GALEN relates an undoubted case of the disease. FERNELIUS tells of a young man who would be seized while writing, and continue to hold the pen in his hand, looking at the paper, as if in deep meditation, but who, being touched or called, was found deprived of all sense and motion. As far as I know, the disease has

* "Sennert," says TISSOT, "croyoit que de cent medicins il n'y en avoit pas un qui vit une catalepsie, il auroit pu dire, mille."

"J'ai connu plusieurs medicins trés agés qui ne l'avoient jamais vue."—*Œuvres.*

been very little noticed by late writers. I knew of a case in which the gentleman was frequently seized while in the street; he did not fall down, but stood* still, till the current of his volitions was restored, and then walked on without inconvenience. While speaking, the paroxysm would sometimes cause him to preserve his attitude and gesture.

The tonic spasm which we often meet with in hysterical women is, I think, a sort of catalepsy; in such cases I have often observed the patient to be rigid for ten minutes at a time, and once for several hours.

The question of most importance in relation to catalepsy is, how shall we cure it? Certainly the stimulant and antispasmodic medicines which have been mostly relied on, are not of great efficacy, since so many cases have been obstinately protracted, as Dr. HEBERDEN'S, Dr. DARWIN'S, and Dr. LUBBOCK'S. The fact mentioned by the latter of something similar to chorea in his case, together with the acknowledged efficacy of purgatives in chorea, and of cathartic medicines in the tonic spasms of hysteria, which is closely allied to catalepsy, has suggested to me the idea that purgative medicines might be advantageously employed in our disease. The almost certainty with which chorea yields to HAMILTON'S plan of treatment, renders the attempt to cure catalepsy, on the same principles, more hopeful. It should be recollected always in undertaking such a method, that great perseverance is necessary, and that the final success, though protracted, and often seemingly unattainable, is most generally suddenly obtained at the close: such has been my experience at least.

I lately cured an obstinate chorea, of many months standing, by purging the young lady every other day with a teaspoonful of jalap and cream tartar. Three weeks and a half had elapsed before any decided benefit was discernible: at the end of the fourth she was pretty well.

TISSOT assures us that "les emetiques et les purgatifs à moins de preuve evidente de saburre dans les premires voies sont plutot nuisibles qu'utiles."—Œuvres.

* TISSOT says, J'avoue que je ne crois point ordinaire que les cataleptiques poussés marchent, and je ne le vois que dans les descriptions générales. &c. But he relates the case of the girl Guerdin, who stood erect during the paroxysm, as well as that of M. V.—*Œuvres.*

ARTICLE VIII.—*Remarks on the Theory of Pain. By* FELIX PASCALIS, M. D. *of New York.*

PAIN is a sensation of soreness, occasioned in some parts of the living body, by the contact of certain offensive or destructive substances. It may, also, be created by an internal cause or condition of disease, and transmitted to the sensorium through the ramifications of the nerves. Its immediate cause is, therefore, anterior to the consciousness of it; and as it is evident, that two different agencies, the one *external*, and the other *internal*, can equally create pain, it is natural to infer, that the pathological change effected in a part or organ, which has become painful in the first case, differs essentially from the second, and that neither can be accurately described or ascertained.

Whether slight or acute, pain mars the enjoyment of life; it disturbs the animal functions, it impairs our perceptions, it is contrary to all the purposes of existence; but it is a salutary warning of the danger, or of the diseased condition, which threatens or is assailing our life; and for the medical observer, it opens an extensive field of indications, inferences, and prognostics, which he can turn to the greatest advantage, and which it is our present object to investigate and to explain.

It may be objected to our statement, that there are pleasurable sensations, which, by their intensity and continuation, may become more intolerable than ordinary pain. Again, that in many natural acts, pain is subservient to relief; that it concurs to the formation and preservation of life; that all animated beings are endowed with the power of organic exertions, which, however painful, are, nevertheless, instrumental in reviving healthy functions, which were suspended. All these positions are true, but they are exceptions; and as they are limited, each of them to certain particular cases, they cannot invalidate our present subject, restricted as it is to the purpose of judging and removing the causes of disease.

1. Pain indicates to our perception the characteristic forms which appertain to the different parts and tissues from which it originates; and this instinctive idea is so far unerring, that no suf-

ferer or patient can be mistaken or deceived, unless his mental faculties are impaired or destroyed.

2. An ordinary headach differs from that *cephalalgia* which is called *clavus hystericus*, and sometimes excites furor or madness; nor does this in any way resemble a violent toothache. Cholic is another sort of pain, nowise resembling a paroxysm of *iliac passion*, nor like an attack of *enteritis*. The gout may often be confounded with *rheumatism*, by those who have never experienced the first. None of these pains can be compared to those from burning, scalding, nor to the acute sensation excited by a knife cutting through flesh and limb, &c. It is remarkable, that in no language does there exist a vocabulary to describe one pain different from another. Except in degree, the sufferer can only designate the part, or the seat of it—how far it extends—how deep it is felt.

3. We have stated that pain was transmitted to the sensorium by and through the ramifications of the nerves. *Pleasure* is transmitted in the same way, and is actively felt, so long as the power of transmission is kept up by the laws of vitality. It must follow, therefore, that painful and pleasurable sensations all require sound and healthy organs, with a full possession of their living attributes; and that in proportion to the impaired state of their functions, or to their decay, pleasure or pain must ultimately be diminished or abolished. It is, therefore, our axiom, that the greater the pain, the greater must be our confidence in the power and energy of life.

4. The celebrated nosologist, SAUVAGE, and his followers, were strangely mistaken, by constituting a distinct class (dolores,) of those diseases that are more particularly marked by pain. Pain, of itself, is not a disease, but only the effect of disease; its absence, when it ought to exist, is a greater proof of disease; and it is by impairing the functions of life only, that pain can create a disease.

5. It is another law governing pain, that its development or intensity, is in direct ratio to the more minute expansion of the nervous and muscular fibrils entwined together, by heat, by swelling, and by imperfect granulation of the part affected. The division of a large or visible nervous cord, or its contact with any offensive substance, are much less painful than they would be on the smallest filament, extended to external sur-

faces, or to any extremity of the body; because these are connected with many more plexuses and ganglia, and even with the whole nervous system of a region, or of a limb. Thence it happens, that excrescences or fungosities in the bottom of ulcers or cancers, and carcinoma, are exquisitely painful, and constitute the torment of such as are affected with those diseases.

6. Pain, inflicted by wounds, by fire, blows, and by surgical instruments, seldom can disturb the laws of the animal economy. In those ages of ignorance, when torture was legally applied, in order to extort the confession of a crime, the jurisdictional practice was authorized by its harmless effect on health and life, unless it was continued too long, or produced organic lesions; for which medical men were appointed, to moderate or suspend an undue degree of it!!! Extended lacerations of flesh and limbs, deeply corroding ulcers, tearing and comminuting of bones, appear not to have any direct agency in producing disease. It is not, therefore, irrelevant to observe, that gouty and rheumatic patients, after long and repeated doleful paroxysms of their complaints, are proverbially cited as patterns of perfect health; and, if impaired, it has been oftener by regimen and medicines they were submitted to, than by their incessant sufferings.

7. There are obscure pains, or certain compound sensations and feelings, in hysteria, melancholia, &c. which a sufferer always refuses to describe or to compare to any kind of ordinary and known sensation It appears that such pains so far vitiate all feelings in life, as to make it horrid and absolutely intolerable. It is certain, that many individuals thus affected, have, and do daily, commit suicide; and even that they execute it, after having, with reflection and ingenuity, escaped detection and vigilance—having shown no mental derangement, or illusory impressions of grief and terror! In many instances of this *zoophobia*, of which we have been circumstantially witnesses, we have not been so much at a loss to account for the victims having always laboured under some deep impression of religion, love, or honour, or from disease, as to detect the state of their feelings, and their unhappy condition and resolutions.

8. Any part of the body which has long been the seat of pain, becomes ultimately so far disorganized, as to lose its sensibility. This phenomenon has been accounted for by the erosion, or

contraction of the nervous fibrils. It eventually arises from a totally different cause—a disease immediately impairing sensations in the arterial and medullary systems. Whatever portion of vitality is then spared, is barely sufficient to support existence; whilst it is abolished in the part in which the disease is more particularly seated. An aneurismal sac, for instance, bearing and striking upon viscera, nerves, and bones, may destroy every thing around it, without ever causing any pain. For a similar reason, deeply seated diseases have been discovered by autopsia, in the stomach, the liver, the spleen, the kidneys, the uterus, and in the urinary bladder, which had never been suspected or manifested, in any stage of an unhappy and lingering existence, owing to the absence of local pain.

9. To this law of insensibility to pain, another is to be added, which results from it. As soon as a pain, caused by any external agent, or created by sympathy, subsides in degree, or is abolished entirely, without the removal of the cause producing it, then one of two effects must take place; either the pain is to be revived, or translated to another part of the body, or an aggravation of disease will result, and affect the whole system.

10. The knowledge of this law is of the greatest importance in practice, and we will illustrate its regular results by several facts and cases, never to be forgotten.

A young woman, mother of two children, having reached the eighth month of gestation, was seized with an excruciating pain on the sinciput, which she compared to the tearing of a boring instrument into the brain. She was distracted, delirious, and, by intervals, prone to madness. Three days had elapsed, during which, a variety of remedies had been applied, without any other relief than what could be produced by stupifying opiates. Her mouth and fine teeth had been repeatedly examined, without giving any indication of the cause of her suffering; until the attending physician, still persisting in the opinion of some hidden cause, endeavoured to discover, in the light of sun-shine, which of her fine teeth might have lost its transparency. One of the lower molares was found opaque, and immediately extracted. It was sound in the prongs; but when broken under the hammer, an internal caries, and a quantity of fetid pus, were discovered. I need

not add, that this *clavus hystericus* was suddenly and radically removed.

11. The cessation and translation of pain (metastasis) from one diseased part to another, is a common occurrence in many old ulcers, fistulæ, cancers, scirrhi in utero; also, during a sickly state of pregnancy, and difficult parturition.

I have seen a woman, who laboured under the characteristic symptoms of phthisis pulmonalis, during each period of her pregnancy. She was always fortunate enough to be delivered in due time, and before the purulent stage of the disease had commenced. She was thereby perfectly cured.

Another instance, more surprising, however, was that of a violent attack of pleurisy, after exposure, which so perfectly simulated labouring pains, at the eighth month of gestation, that the patient was simply left under the care of her midwife: yet, after days and nights of fruitless expectation, a physician found that she had nothing but pleurisy, with translation of pain from the chest to the uterus. This was perfectly removed by two successive bleedings. These put an end to the prominent and deceptive symptom, and did not at all interfere with the remaining month of gestation, which terminated very happily.

In a similar case, which occurred in a delicate and weakly woman, in the fifth month of her pregnancy, the pain fluctuated; appearing sometimes in the chest, at others in the uterus. One bleeding could not prevent an abortion, with profuse hæmorrhage. The pain returned to the chest with less violence, but attended with dyspnœa; and the woman shortly after died.

12. Thus, if a pain disappears from its natural seat, and is no where reproduced, we have said, that an aggravation of disease may be anticipated. Yet, a state of convulsion succeeding to the pain, is a *locum tenens*, another phenomenon which retards all danger, even that of mortification.

An old gentleman, labouring under a small inguinal hernia, unfortunately displaced his truss, in the act of leaping over a fence, and strangulation took place, with so little pain, however, that he did not perceive it. He was, however, taken very ill, with vomiting, as if the stomach was much disordered, and treated, during three or four days, for a fever of bad character. A convulsive hiccough took place, so violent as to prevent deglutition. In that

alarming state, the pulse being very tremulous and intermitting, the very small strangulated hernia was discovered, in which pressure by the hand could not produce any pain. No discolouration of the skin had taken place. By the aid of a large bleeding, and by means of the taxis, it was soon reduced, and the patient set on foot next morning.

13. It is here to be observed, that acute diseases, attended with inflammation, are productive of violent and constant pain; as, for example, pneumonia, pleuritis, enteritis, nephritis, peritonitis, &c. But, eventually, they are not so fatal as other acute diseases, or fevers, of a bilious and typhoid character, autumnal, malignant, and ataxic; and in these, pains are neither continual nor frequent, but mostly vague and obscure. It may be said, that the treatment of inflammatory diseases is generally more successful, because it is better understood than that of the latter kind of diseases, as it is founded on the antiphlogistic principle of depletion. *Cæteris paribus*, it is evident, however, that malignant fevers, and typhus, which excite no pain, are more fatal and dangerous; but if in the same, it should happen that great pains in the limbs should take place, they certainly prognosticate an immediate recovery.

A girl, of a strong constitution, nearly twenty years of age, had passed through the first and second stages of the yellow fever. On the fifth day, black vomit, hæmorrhage, and jaundice, took place, and she was shortly expected to die; when she suddenly complained of great pain in her limbs. This was aggravated by the touch, which she could not bear, without crying, when it became necessary to feel her pulse at the wrist or ancle. It had happened, that her removal, as ordered by public authority, into a hospital, had been neglected; consequently, if she died where she was, the responsibility must certainly fall upon me. But trusting entirely to the last prognostic, and assured that her dreaded removal could only aggravate the disease, and prevent a happy result, I resolved to keep her; and she rapidly recovered, without delay or difficulty.

14. The appearance of a febrile disease, during the absence of a pain, or pains, which naturally ought to take place, is clearly evinced by the following case.

A gentleman, thirty years of age, of a strong and regular make, had contracted a severe tertian fever, in one of the Southern

States, where he resided. Every means had been used in vain; even the change of seasons could not break or suspend the regular accession of his tertian paroxysms, which generally were violent. He, therefore, resolved to travel to the North, to seek for a cure. He had now laboured eighteen months under the disease, and complained of a sensible decline of strength and spirits. I was struck by the contrast of his good and youthful, although pale, countenance, with his black mouth and demolished teeth, a few only of which remained sound. For this, he accounted to me, by accidentally having drank, in his youth, some poisonous fluid, which had been promptly rejected; but he assured me that he never suffered any pain from his rotten teeth, although, by close examination, I found that but few were not decayed, and that at several points his gums were in a morbid condition. Although I would not then pretend that this was the cause of his protracted intermittent, it appeared to me that the state of his mouth, evidently fetid, would interfere with the operation of medicines. I, therefore, insisted upon the extraction of as many stumps as could be conveniently removed, promising further advice. The gentleman retired, apparently surprised, and leaving me but a feeble hope of his compliance to directions. He returned, however, ten days after, announcing his perfect cure, obtained by the extraction of eleven decayed teeth and stumps, to which he had submitted, after his visit in my office. He intended to have a few more removed, if the fever returned; but after three periods, he had experienced none: and by a liberal fee, he manifested gratitude, and proved by the happy result of his case, the truth of the doctrine I have here endeavoured to develop, in various points of view, by a reference to particular cases.

15. But another inference, from the numerous instances we have detailed, may be made, of their great utility in, and extensive application to, practice, if, on examining the laws of pain in the human body, we find a regularity of sympathy, or connexion, between the organ or viscus, which, by its actual condition of disease, sends its pain to, or shares it with another part of the body.

Taking, for example, the cases of external injury on the head, whether a fracture, a depression, or a contusion, it is well known, that either of these accidental lesions will induce a greater or less morbid succession of symptoms of the stomach; as, vomiting,

cramps, or pain; and as long as any such cause exists, the like effects are alternating with, and are only relieved by, symptoms of coma or torpor. This occurs even in consequence of a trifling contusion of the head, on or near the sutures, through which some nervous fibrils have affected the dura mater. I have seen the fact exemplified, in a boy nine years old, who, in consequence of a contusion, which, however, was so trifling that no operation on the part was deemed proper, until the incessant return of the above symptoms made it necessary to cut through the scalp and the pericranium, and to abrade from the surface, and on the suture, the filaments which thus had excited so much mischief and danger. But if a sympathetic affection of the stomach could be excited by so slight a cause, would we see a sufficient reason, in a case of chronic internal disease, attended with particular and severe affections of the stomach, to suppose that they proceed from cerebral congestion or distension?

16. If we direct our attention to another analogy or law of sympathy as evinced in gout, it will equally guide our minds to the source of that destroyer of all comfort in an advanced period of life. The lower extremities, in which the gout establishes its dominion, are those in which the smallest injury in the tendons or muscles, immediately excite spasms or convulsions in the upper organs of respiration, digestion and principally mastication, constituting *tetanus*, *opisthotonos*, *emprosthotonos*, or a convulsion of all the muscles surrounding the organs of digestion and respiration. This terrible kind of convulsion, it is known, terminates life by the abolition of respiration and digestion, and when commenced, it is well known, ordinary remedies can neither moderate nor suppress its progress. But if these principal organs can be sympathetically affected by the lower extremities in cases of deep injury or lesion, should we not suspect, or infer, that when they excite excruciating pains, these are consentaneous with, or to, the organs of digestion and respiration, which are all gorged, obstructed, debilitated, and, in fine, disabled by habitual abundance of food and by intemperance? As yet, no better remedy has ever been found against the gout, than perfect abstinence.

17. Again, rheumatic pain, whether acute or chronic, will offer us by analogy, a clue to its true and unquestionable source. For such is the ordinary result from injury or lesion of any limb

or part of the body, that soon after it swells, and an influx of blood or *humours* takes place in it. This is the fact in every case of tearing, of bruising, or of fracture of bones; I may add, of luxated joints. As the swelling increases, the inner capillaries become more distended; the pain, and with it inflammation, are manifested. It is a particular fact in those circumstances, and well ascertained by autopsic observation, that the inner parts of an injured limb, such as the periosteum, apaneurotic membranes and muscles, always appear as if they had been injected with red blood. The pain therefore demonstratively results from that pathological state, and to it we may attribute the phenomena of rheumatism; the more so, as this complaint is soon after accompanied with heat, swelling, and redness. Rheumatism, therefore, announces plethora in the part of the body which it affects, perhaps greater than the whole system, owing to its declivity, or to some other cause. It is now left to the decision of the practical readers of these remarks, whether rheumatism be not better treated by depleting and antiphlogistic remedies, than by any others!

18. The *tic dolóureux*, *neuralgia*, a prodigiously and exquisitely painful disease, may even be adduced in confirmation of the present theory.

French physicians and surgeons have written much, and commented upon this disease more than those of any other nation. The celebrated Louis cured it by dividing a nerve, the inferior maxillary, or third branch of the fifth pair, passing out on the side of the chin. Heurtloup effected a cure also by the magnetic operation of an iron mask. Meglin has done more than all, by his pills of hyosciamus, valerian, and white oxyd of zinc. I could account for all these cures, although those and other French writers have left the disease involved in the same mystery it had always been in. A venerable physician, Dr. Jones, of the city of New-York, who had tried, I believe, every one of those remedies, died truly a martyr to it; having been frustrated in every attempt to remove it. From him, and in cases attentively observed, I have been satisfied, that the pain of the tic doloureux always exists on one, and the same side of the face; that the sufferer never can designate the very point from which it originates, from the eyebrows down to the chin; and that although the pain may disappear during long intervals, it is equally, and as often,

renewed, or brought on, by external or moral causes, besides temperature, surprise, motion, light, and noise, and by any object which particularly strikes the senses. In the case of an old woman, the pain was twice removed and suspended for a long while, by a considerable hæmorrhage, once from the nose, and at another time from the socket of a tooth, after extraction, on the painful side of the face. The pain unexpectedly ceased, and she sunk, with the loss of her perceptions, and with asthmatic symptoms. CABANIS informs us of internal suppuration having been found in the brain of a person afflicted with the tic douloureux. From all these facts and authorities, I presume that this kind of neuralgia is a *hemiplegic affection*, and that it is in every instance to be attributed to some disease in the brain, on the side opposite to that in which it is invariably felt.

19. In conclusion, I may then recapitulate, that pain is always the effect of an organic disease, proportioned to the degree and importance of the part affected in the system; that the sensibility of our organs being different in degrees, and sometimes null, it is a preservative law of nature, that whatever evil befals any part of the human system, should be felt in another, according to the distribution of the nerves, or according to the laws of sympathy. The evolutions of pain well observed, may, therefore, lead us frequently to the discovery of the nature, and of the cause of the most obscure ailments which we are called upon to cure, or to relieve.

In addition to the practical advantages which may be derived from the theory of pain, it may not be irrelevant to consider those which may result from it, in a moral point of view. "Pain not only imparts to us useful lessons, but it contributes greatly to the strength of the constitution; it implants steadiness in the nervous system, and diffuses more energy and equilibrium to the muscular fibres: it is, however, necessary, that pain should be assisted by a proportionate degree of reaction, and that nature should always be roused from depression, with a degree of vigour: thus it is that new afflictions can increase the power of the soul, provided it does not prostrate it in despondency and despair. Misfortune not only assists us in judging, with more truth, of all things, and men, in life, but it raises and sharpens our courage, that we

could always find in it, when required, a firm support against the evils of human life."*

ARTICLE IX.—*Case of Ecthyma Cachecticum, with observations. By* THOMAS T. HEWSON, M. D., *one of the surgeons of the Pennsylvania Hospital.*

J. H., aged twenty-three years, a sailor, was admitted into the Pennsylvania Hospital on the 7th of May, 1825. He stated, that in the month of February, while in Havanna, without his having experienced any constitutional indisposition, he was suddenly affected with an eruption on his forehead. It commenced in the form of small pustules, the summits being of a whitish colour, the bases red and inflamed. The disease successively extended to other parts of his body, affecting the trunk and the extremities; his hands, feet, and the flexures of the joints, however, remained perfectly healthy. At the period of making the record, it is stated, that in some instances, the pustules had been converted into dark brown scabs, of various extent, from one-eighth to half an inch in diameter. This was particularly observable on the forearms. Plate I, figure 1. On the breast, the pustules presented the character of concreted pus, and had not assumed the brown colour. Plate II. On his forearms, the skin surrounding the eruption, was generally inflamed, and of a dark cochineal red. On the breast, the hue was more various, affording all the shades from the light lake to the dark cochineal red. On this part of his body there was noticed a discolouration of the

* La douleur ne donne pas seulement d'utiles leçons, elle contribue aussi plus d'une fois a fortifier tout le corps: elle imprime plus de stabilité, d'équilibre et d'aplomb aux systemes nerveux et musculaires. Mais il faut toujours pour cela qu'elle soit suivie d'une réaction proportionelle; il faut que la nature se releve avec énergie sous le coup. C'est ainsi que le malheur moral augmente la force de l'ame, quand il ne va pas jusqu'a l'abattre. Il ne se borne point a faire voir sous des points de vue plus vrais, les choses; il eleve encore et trempe le courage, dans lequel nous pouvons trouver, presque toujours, quand nous savons y recouvir, une asyle sur contre les maux de la déstinée humaine.—*Cabanis Rapports du Physique et du Moral de homme. pag.* 233.

skin, resembling the Pityaris of WILLAN; and spots of a colour between the ash and pearl gray, were perceived more especially upon the trunk, which were supposed to be cicatrices, the seats of former scabs that had desquamated. At the period of his admission, his ancles were swelled, and we observed tumefaction and tenderness of the gums, from which there occasionally issued a little blood. His muscular strength was impaired; his appetite was good, and his alvine discharges regular; his skin was warmer than natural, and dry; his pulse 100, small, and wiery. He was put on the free use of fruit, and fresh lemon juice, and his body was regularly washed with warm water and bran.

From this treatment, on the 25th of May, there was an apparent improvement in his general health; his skin had become soft and of natural temperature; his pulse 100, and no longer wiery. He had, however, suffered more hæmorrhage from his gums, which had been restrained by a gargle of myrrh. Many of the scabs had fallen off, leaving slight depressions, at first, of a faint red colour, and which afterwards became of an ash or pearly gray, as expressed in the first report. He was now directed to take a fluid drachm of the tincture of sulphuric acid, with a pint of an infusion prepared with quassia, serpentaria and orange peel.

On the first of June, the eruption had nearly disappeared from the forehead. On the trunk, and the extremities, more of the scabs had fallen off, and the colour of the skin had considerably faded.

On the eighth of June, though the eruption was evidently disappearing rapidly, it was deemed necessary to vary the prescription, in consequence of the man's having become tympanitic. His abdomen was tumid and elastic, and afforded no fluctuation on percussion. He stated that the distension was most obvious in the morning; that he was much troubled with flatulence, and that he experienced great relief, accompanied by an evident diminution of the swelling, on the discharge of wind. His urine was natural, both in colour and quantity; his bowels open; his tongue clean; his pulse 100, and feeble. He was now directed to take the carbonate of iron and the resin of guaiacum; of each ten grains, with five grains of powdered capsicum, three times a day, instead of the acidulated bitter infusion. The ablutions with warm water and bran were continued. These means operated beneficially;

the tympanitic affection subsided; the scabs continued to fall off; and a considerable portion of the skin had resumed a healthy colour. On the 15th, however, in consequence of his bowels being very frequently disturbed, it was deemed adviseable to substitute ten grains of powdered gentian, in the place of the resin of guaiacum. In this form the medicine was continued until the 22nd, when he requested permission to leave the hospital; at which period he was reported to be nearly well.

PLATE I.

Fig. 1. Represents the eruption of the natural size, as observed on the arm.

2. Represents the upper extremity, showing what portion was not affected.

PLATE II.

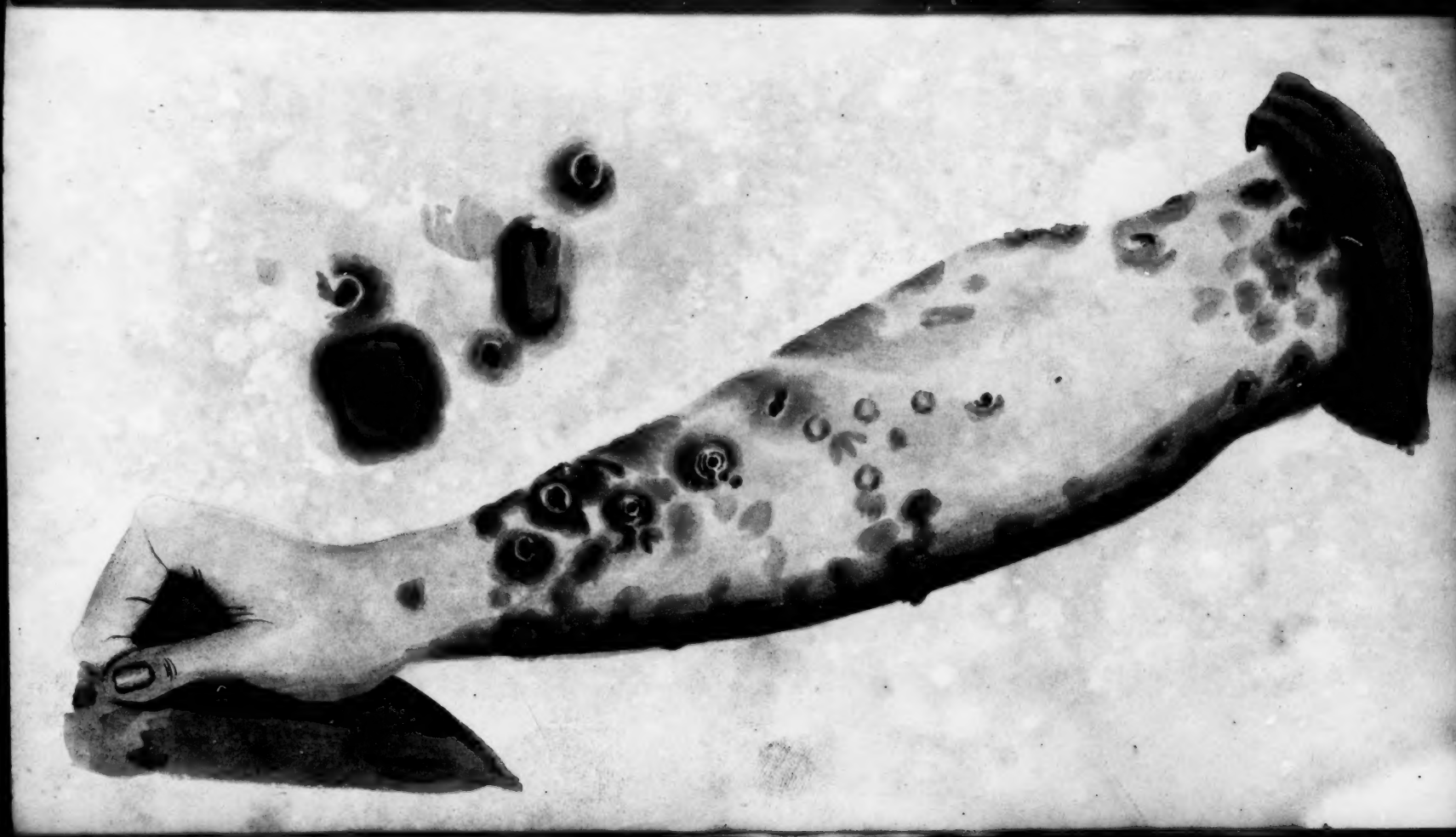
Exhibits the eruption as observed on the breast.

In offering the foregoing history, I have been actuated by the desire of drawing the attention of the profession to a class of diseases which have been too generally neglected. The skin is frequently the seat of various eruptions, that present many features capable of being faithfully delineated by the pencil, with the nicest discrimination of their distinguishing form and colour. Notwithstanding these advantages, our knowledge of these complaints is not marked by a corresponding degree of precision; and this portion of pathological science is acknowledged to be in a very imperfect state. The specific symptoms of such morbid affections have been very inadequately expressed; the nature and causes very imperfectly understood; the curative means have been, for the most, purely empirical, or directed by a blind routine; and too often, to the disgrace of the profession, the treatment has been consigned to the care of bold and ignorant pretenders.

Whoever devotes himself to the study of this very interesting portion of pathology, with a view to the successful treatment of these disorders of the skin, will experience continual embarrassment; he will find his progress in the acquisition of knowledge impeded by the great confusion introduced into the nomenclature employed to designate the numerous morbid conditions of the skin. Dissimilar terms are often applied to express the same form of disease, and frequently, complaints varying in their aspect, receive

the same appellation. When information on a multiplicity of objects is to be communicated, classification and technical language will be required. Terms, to be strictly appropriate, must be the result of a minute acquaintance with every circumstance constituting the essence of the object to be described. Systematic arrangement, or classification, is the mere offspring of the intellect; has no foundation in nature, and may be considered as purely arbitrary. In the actual state of medical science, exceptions will be readily suggested, and may be reasonably urged against every system, the details of which, must, in many instances, be defective. If such objections be offered with candour, they will be entitled to respect, as calculated to impart greater precision to our views.

Bateman's Synopsis, originally commenced by Willan, who did not live to complete the work in which he had been long and assiduously engaged, is the most comprehensive treatise on cutaneous diseases hitherto published in our language; and being in extensive circulation, may be adopted as a proper standard of reference. The case I have recorded, will be readily recognised as the ecthyma cachecticum of these writers. In some features, shades of difference will be perceived, perhaps not essential, but only indicating an individual variety, and, probably, dependent on the same disordered state of the system. The pityriasis which I have noticed, has been frequently observed, in connexion with slight disturbance of the constitution; and is by no means incompatible with that condition which is found to precede and to accompany the eruption of ecthyma. The spots, of a pearl or ash gray colour, which appeared on the desquamation of the scabs, have not been described by those who have written on the pustular diseases of the skin; nor do I recollect to have observed such before. They may, therefore, be deemed purely accidental, or as marking some peculiar condition of the skin in the individual whose case has been noticed. Slight febrile symptoms are generally observed to usher in the first appearance of the eruption, and some degree of hectic or erethism accompanies the progress of the disease. Languor, depression of spirits, and prostration of the muscular powers, are ranked among the accompanying symptoms. Weakness of the digestive organs is likewise a usual attendant. In this man, the appetite is stated to have been good; yet the tympanitic affection of the bowels affords sufficient evidence, that



the function of these organs was imperfectly performed. The swelling of his ancles, and the hæmorrhage from his gums, exhibit proof of a depraved condition, approaching to scurvy. The duration of the disease corresponded with general observation, two and four months frequently elapsing before the cure can be effected.

The previous history, or a knowledge of the causes leading to the production of the disease, cannot be collected from the present case. Very particular inquiries were made; but with all their general reputation for frankness and candour, we often find sailors little entitled to confidence, in the narrative they give of their real habits, or of the places they have frequented. This defect of evidence excited in some who witnessed the case, strong suspicions of its connexion with a syphilitic taint. Against this error, it is of importance to guard; for too many persons affected with such eruptions, have been subjected to repeated and unavailing courses of mercury. That syphilis, in its secondary forms, ever assumes the character of ecthyma, has been denied by some very intelligent practitioners; and it will be readily conceded by every man of experience, that the diagnostic signs of the syphilitic forms are extremely equivocal, and that, in most instances, ecthyma can be traced to causes totally independent of such contamination. Though frequently observed in persons whose constitutions have been impaired by the previous ravages of the disease, or by the debilitating processes employed for its removal, it yet remains to be proved that the appearance of ecthyma can be essentially traced to a syphilitic origin. Should the alliance be established, we may hope, from the prevailing spirit of investigation, and from the minute attention paid to pathological distinctions, that the discriminating characters will not remain veiled in obscurity. From a careful perusal of the best writers, and from attentive observation in the treatment of ecthyma, I am inclined to believe, that in most instances, the cure will be most speedily accomplished without the use of mercury, though this mineral constitutes one of the most efficient remedies in certain defedations of the skin. Where there exists a discrepancy of opinion among those whose experience is entitled to respect, it is incumbent on us to examine scrupulously, and to weigh all the circumstances, in order to attain an accurate knowledge of the curative indications to be fulfilled.

Under the impression, that the production of ecthyma is connected with a state of cachexia, our efforts will be directed to the removal of this condition, and to the imparting of a due degree of tone and vigour to the system. To this end, on many occasions, a regulated diet, consisting of such articles as afford a nutriment bland and easy of digestion, will prove sufficient. At the same time, attention should be paid to personal cleanliness, in the use of the tepid bath; or this purpose may be conveniently accomplished by frequent ablutions with warm water and bran. With the same intention, we find various farinaceous decoctions, and water impregnated with vegetable mucilage, as obtained by boiling the bark of the slippery elm, highly recommended. These topical means facilitate the desquamation of the scabs, and by softening and cleaning the cuticle, assist in restoring the skin to a sound and healthy condition.

When the strength has been more deeply impaired, benefit will be derived from the administration of the vegetable tonics; as, the decoction of cinchona, serpentaria, sarsaparilla, &c., either simple, or in the more compounded preparations. To these, the mineral acids are often advantageously added. I have lately visited a patient, affected with the disease, after a severe attack of typhus. The man's face was greatly disfigured, and he was rendered a most loathsome and disgusting object. In this case, yest, exhibited to the extent of a pint and a half daily, has afforded the most positive relief, acting as a grateful cordial; while the mildest officinal bitters, and the conserve of roses, excited intolerable distress, in consequence of the extreme tenderness of his mouth and throat.

In persons labouring under constitutional irritation, the decoction of sarsaparilla, in combination with antimonials, has proved eminently serviceable. But on many occasions, our chief reliance must be placed in the free exhibition of opium, cicuta, stramonium, or other narcotics.

In the more protracted forms of ecthyma, change of air and gentle exercise will contribute essentially in strengthening the system, and in shortening the disease.

ANALYTICAL REVIEWS.

ARTICLE X.—*A Treatise on the Physical and Medical Treatment of Children. By* WILLIAM P. DEWEES, M. D. 8*vo. pp.* 490. *Carey & Lea. Philadelphia.*

THE people of this country have often been reproached with being the too servile imitators of their English brethren, in matters of taste, of arts, and of sciences; and we must confess, that in respect to our literature, the reproach is not wholly unfounded. Were we anxious to investigate the causes of this fact, we trust that many might readily be discovered; it will be sufficient for our present purposes, however, to point out the sameness of language in these States and Great Britain, as of itself capable of exercising a powerful influence in retarding our emancipation from the fetters of English literary despotism. Books are so easily procured from the United Kingdoms—republication of them is so much preferred by booksellers, to encouraging Americans, who are willing to aspire to the honour of authorship, that the efforts of American genius have but too often lain dormant for want of proper stimulus. In respect to our profession, the baneful effects of this system of republication is particularly evinced; and, until within a few years, the appearance of a medical work, strictly American, was a thing not often seen. The numerous medical periodicals have served admirably to correct, in some measure, this effect; affording, as they do, an opportunity to the members of the profession to publish their thoughts, and the results of their experience.

Medical *works* now make their appearance much oftener than formerly; for genius and talent are finally triumphant, however thick and obscure the clouds by which they are surrounded; and we cannot help thinking, that every true American will view with pleasure and pride the moment, which is fast approaching, when we shall be able to repel the charge to which we have alluded above, and assume a dignified rank among the literary nations of the world.

It will be confessed by every one who has kept pace with the improvement of medical science in this country, that the author

of the work of which we intend now giving an analysis, has contributed, in no small degree, to promote the rising reputation of our medical literature. His essays on difficult labour, and on different subjects connected with midwifery, and more particularly his excellent system of midwifery, have already gained him so high a name, at home and abroad, that few now need be told of the claims he has to our particular regard. It would be no easy task, to find a physician better qualified to undertake a work on the physical education and diseases of children, than Dr. DEWEES, whose long and extensive practice has enabled him to see a great deal, and whose natural and improved judgment has enabled him to see *well*. But as our readers must already be impatient to know what so judicious an author has said on so interesting a subject, we proceed, without further comment, to lay before them an abstract of his opinions, and of the result of his experience.

Entertaining the opinion that the physical treatment of children should begin, as far as practicable, with the earliest formation of the embryo, Dr. DEWEES thinks it involves the conduct of the mother, even before her marriage, as well as during the period of pregnancy; for, although he does not say, as many have done, that every man is neither more nor less than what his mother made him; nor that to her alone he must refer the vigour or feebleness of his constitution; yet he is disposed to think, that much, in both respects, depends on her. To ensure the first of these objects, and to prevent the other, it is evident the woman herself must possess health; and it should be her principal object, by every proper means, to preserve it. Every one must coincide in opinion with the author, that the stamina of the offspring depends almost exclusively upon the good health of the parents, and that, upon the original healthy dispositions of the child, will much depend the success of a well directed physical education; and that upon *the judicious application* of physical *agents* healthy development takes place, and on their neglect, or misapplication, the soundest stamina may be converted into debility tending to disease. Hence arises the importance of a good conduct on the part of the mother, both before and after marriage, and especially during pregnancy, for the formation of healthy stamina.

Leaving the consideration of the prefatory remarks, we pro-

ceed to offer a notice of the contents of the work; the first chapter of which is devoted to the subject of *marriage*. It is divided into several sections, of each of which we shall now present an abstract. In the first section, on the period of life at which the woman should marry, our intelligent and experienced author remarks, that as the development of the body is successive, and requires a certain period for its completion, and as certain functions cannot be performed in the best manner until the organs destined to perform them have acquired their full development; and again, as when any function is prematurely urged, it leads to the imperfection of the product dependant on that function, as well as entails upon the part so exercised, debility and premature decay; it follows as a natural consequence, that too early marriage is never to be advocated; since it will not only materially influence the health and well-being of the offspring, but be productive of ill consequences to the mother herself.

In respect to the period most proper for marriage, it is difficult to lay down any definite rule. The original stamina, physical and moral education, climate, mode of life, &c. will have considerable influence in that respect. But in this climate, Dr. DEWEES thinks, the period may be fixed with much certainty at between the twenty-third and twenty-fifth years for the male, and from the nineteenth to the twenty-first years, for the female. In regard to the circumstance, that females in this country lose their beauty earlier than those of Europe, and particularly of Great Britain, our author is of opinion, that the cause of this hasty decay must be principally sought for in their very early and premature marriages; but at the same time confesses that climate has also a limited agency. "The examples," he continues, "of evils resulting from precocious unions in this country, are familiar to every body; they are not limited to the diminished vigour, and shortened life, of the male; nor to the faded beauty, the blasted health, and the premature old age of the female; for they are extended to their unhappy offspring, on whom they have, perhaps, entailed a diminished stature, debility of body, and imbecility of mind; or have handed down to them, strong predisposition to consumption, rickets, scrofula," &c.—p. 11. Better constitutions are perpetuated to offspring by men advanced in life, where the

physical powers have been well preserved by moderate and proper use, than by young men who have been prodigal of them; but Dr. DEWEES is not an advocate for the union of old age and blooming youth.

To *constitution*, which forms the subject of the second section, much attention should be paid; and it ought invariably to be a consideration in marriage contracts, that both parties should enjoy sound health and constitution; for although children of people of slender frame and health, may be healthy in appearance, such appearances are often deceptive. Children, under such circumstances, continue to thrive for a time, but rarely attain an age much beyond manhood, and agreeably to Dr. D.'s experience, old age is out of the question.

Section 3. *Predisposition to Diseases.* Whatever may be the diversity of sentiments in respect to the hereditary property of certain diseases, we believe there can be but one opinion as regards the fact that predispositions are often transmitted to children by their parents. Nor is it less a fact, that "those who inherit such predispositions, may, for many years, enjoy good health, and may not be led to suspect any cause to be lurking in their systems, which, when called into action, shall but too soon destroy such flattering expectations." Bearing this fact in view, we cannot but join with our author in opinion, that it becomes a point of duty in parents to investigate the tendency to hereditary complaints, before they connect their children with those who can give but a temporary security against the most painful, afflicting, irremediable, or suddenly fatal diseases.

Section 4. *Of the immediate state of health.* By this the author means that condition of the system in which either of the diseases known to be transmissible from the parent to the child is absolutely developed. Although it would, at first-sight, appear most reasonable, that unions under such circumstances would not take place, yet it but too often happens that this fore-knowledge is entirely disregarded by those individuals most concerned. This may arise from several causes: 1st, A want of proper feeling for the consequences of such diseases when extended to offspring—2nd, a hope of an escape from their consequences—3d, an ignorance of their nature and of the risk of their propagation—4th, a disgraceful selfishness where fortune or beauty is concerned.

Dr. Dewees next offers some observations on the conduct of the mother during pregnancy. This is a subject of great importance to the welfare of the offspring, and consequently deserves considerable attention. Dr. D. remarks, that a little reflection on the delicate and uncertain attachment of the ovum to the uterus in the early months of pregnancy, and on the facility with which this union may be destroyed, must make us cease wondering that abortion should be so frequent, and that at the same time, we are taught to acknowledge the care required for its prevention. It too frequently happens, however, that women pay no attention to these circumstances until warned by frequent abortions, and by a change in, or a loss of, their wonted health. To prevent abortions, therefore, as well as its many consequences,

"The pregnant woman must carefully avoid, 1st, All such motion as shall unduly exercise her muscles; as too long walks, especially in such weather as will endanger her falling, or shall over-heat her, as dancing in very hot weather; hastily running up stairs; lifting heavy weights, &c.; 2nd, All such as shall take her mind by surprise, if we may so term it, as unpleasant or dangerous sights; 3d, All such as shall inordinately hurry her circulation, as heated rooms, or stimulating liquors, &c.; 4th, All such as shall embarrass the intestinal canal, or too severely tax the powers of the stomach; as flatulent vegetables, too great a quantity even of proper food, or any quantity taken at improper seasons, as late suppers, &c.; 5th, All such as shall give too frequent motions of the bowels, as brisk or drastic purgatives; or such as still too much retard their motion, as the unnecessary use of laudanum, or the unnatural use of chalk, or disobeying the proper calls of nature; 6th, All such as shall make too severe and partial a pressure upon the chest and abdomen, as tight lacing, &c.; 7th, All such as shall increase the irritability of the system; as the immoderate use of strong tea, coffee, opium or other narcotics; and the too long indulgence of repose in warm feather beds; 8th, All such as shall too exclusively occupy the mind; as severe study, night watching, &c. &c."—p. 18, 19.

But it is not only incumbent on the mother to guard against abortion, since it is well known that the proper incubation and nutrition of the fœtus, may, by the improper or heedless conduct of the mother, be impaired, and the offspring materially injured, although he may not be destroyed.

One of the vulgar errors which have done much injury, and to which Dr. D. calls attention, is, that the pregnancy is constantly

accompanied by a plethoric condition of the bloodvessels, and that there is a returning necessity for blood letting. Dr. DEWEES very properly remarks, that this state of fulness does not always exist, and when it does, it by no means follows that it should always be subdued by bleeding.

"We are warranted by long experience to declare that unless this plethora produces some direct evidence of its mischievous tendencies, as headach, pain in the chest, a sense of fulness in the head upon stooping, giddiness, &c. the patient should not have recourse to bleeding without the express approbation of the physician. And perhaps it would be erring on the safe side to say, that even when the symptoms just enumerated are present, his advice had always better be asked.'—p. 20.

It must not be inferred, however, that bleeding is always improper; it is only against its *abuse* that these remarks apply.

Another vulgar error, no less important to be corrected, is that of indulging the wayward or voracious appetite, merely because the woman is pregnant, and because, according to common parlance, she has a child within her to support. So far from this being correct, experience teaches, that the woman has no absolute necessity for taking more food than under any other circumstances. This, Dr. DEWEES proves, by calculating the weight of the fœtus and secundines, and the number of days they remain in the uterus; by which it follows, that the daily increase is not more than three-fourths of an ounce. He thinks, on the contrary, that the nausea and vomiting which the woman suffers, indicate that less food is necessary. Although he does not attempt to explain the whimsical demands, or "longings," for certain substances, which the pregnant woman suffers, our author offers some observations on them, accompanied with very remarkable cases. It results from his observations, that, although these substances may indeed, and do, occasion sickness at stomach, a temporary loss of appetite, and sometimes vomiting, no other evil has ever resulted from gratifying the woman in her inexplicable desires.

"Nor do we believe," he continues, "in the influence of the 'imagination' upon either the form, colour, or future destiny of the child, however powerfully this faculty may have been exerted during gestation." This is the result of long experience and mature reflection.

In chapter 4th, *on the indulgence and exercise of temper, &c.*

our author remarks, that, besides the prohibitions already suggested, there remains to be considered, the injurious tendency an indulgence in unbridled passions has upon the immediate, as well as the future welfare of the fœtus. "Nothing contributes more certainly," he justly remarks, "to the safety and future good health of the child, than cheerfulness of mind, or, at least, equanimity, on the part of the mother:—this fact was well known to the ancients, and they accordingly acted upon it, by giving great attention to the little wants of the pregnant woman; removing from her all disagreeable and disgusting objects; and constantly presenting her with subjects calculated to excite admiration, or to create agreeable impressions on the mind."—p. 33.

Chapter V. *Of the food proper for pregnant women.* Under this head, the author treats of the highly injurious effects of an indulgence in stimulating drinks. The habit of taking a too large quantity of these substances, is sometimes contracted during pregnancy, from a desire to overcome the unpleasant sensation of nausea and debility, commonly present at this period, by using some cordial or tincture of high character, for this purpose. But experience proves, that no gratification is so dangerous as this. Agreeably to our author, and, we trust, to every one else, this practice should be resisted, from the moment it begins to be importunate; and a deaf ear should be turned to the dangerous maxim, that, if wanted, these substances cannot hurt. "Every thing which can unduly stimulate the system at this time, is highly injurious, by putting both the nervous and vascular systems in an unnatural condition; consequently, the functions so important to the welfare of the fœtus, are interfered with, or imperfectly performed—and hence, the children of women who over stimulate, or become intoxicated, are always less healthy and less vigorous, than those of mothers who observe a contrary conduct."—p. 35.

Dr. Dewees next lays down certain rules for the conduct of the woman at the period of labour. Of these, however, we can offer only an abstract. 1st, Let the woman seek the best possible aid, for this anxious moment, which the circumstances will permit, both as regards her physician and her nurse. 2nd, Let her not be impelled, by false theories or by bad counsel, to use *too much* exercise, towards the latter period of pregnancy. 3d, When warned by the usual symptoms of the approach of labour, let

her not indulge in gloomy forebodings, nor yield to unreasonable fears for the event. But let her console herself with the reflection, that when directed by a judicious practitioner, death, or even an untoward circumstance, rarely attend labour. 4th, When labour has actually commenced, let her not yield to an overweening anxiety to hasten its progress, by taking improper articles of diet or drink, and walking repeatedly in her room. 5th, As the efforts of labour, however successfully or quickly exerted, must necessarily tend to hurry and disturb the circulation, and thus dispose to fever, every thing that can possibly increase the impetus of the blood, must be carefully avoided, as stimulating drinks or food, &c. 6th, Let not too much anxiety be indulged for the event, nor too much apprehension be entertained, because the period of trial is of longer continuance than she anticipated. 7th, Let not the woman indulge in any opinion that may clash with those of her attendant, but yield herself entirely to his direction. 8th, Let her guard against her passions—childish waywardness or fretfulness—lest her nervous system be thrown out of balance, and hysterical convulsions ensue. 9th, After delivery, let her yield implicit obedience to the directions of her medical attendant.

As the future health and welfare of the child, after birth, depends in the greatest measure on the healthfulness of the mother, and her capacity to supply it with sufficient and proper nourishment, the utmost care is demanded, and attention should be paid to the following rules. 10th, She should avoid all such causes as may tend to produce or augment fever. 11th, She must aid, by her own good sense, the endeavours of her physician, to prevent the accession of fever, by not permitting the nurse, as is too often done, to run counter to his directions. 12th, With a view to give the best possible chance for the breasts to perform their functions properly, and to prevent, as much as possible, the occurrence of sore nipples, she should have the child applied to them so soon as she is sufficiently recovered from her fatigues to permit it; and repeat this, if possible, every four or five hours. 13th, *She must not delegate to any other being, the sacred and delightful task of suckling her child, unless there be the most decided and insurmountable impropriety in continuing it at her own breast.* 14th, She should attend to the dressing and undressing of her infant, if she cannot perform these offices herself. 15th, The mother should not per-

mit her child to be fed while she herself can supply it with sufficient nourishment; and avoid all food which is known to be injurious.

The succeeding chapter contains "observations enforcing the foregoing rules; for which, want of sufficient room forces us to refer to the volume itself.

As Dr. DEWEES thinks that the sound condition of the nipples is of the first consequence to the mother and child; and as it materially influences the future health of the latter, he devotes a few pages to the consideration of their treatment when sore. This affection almost always arises from over distension, and consequent inflammation of the milk vessels, or from obliteration of their little extremities by compression or other injury. The friction which the nipples suffer, from the attempt to draw off the milk, renders them tender, and soon causes a removal of their covering membranes. Agreeably to this view of the subject, the treatment should consist in avoiding distension and inflammation of the milk vessels, and removing the obstructions of their extremities. Dr. DEWEES recommends that the woman should begin to prepare these parts some time previous to labour, by the application of a young, but sufficiently strong, puppy to the breasts, immediately after the seventh month of pregnancy. As regards the different washes recommended for the purpose of hardening the nipples, they rarely succeed, for the simple reason, that it is not so much an unusual tenderness of the skin that gives rise to the complaint, as the degree of force necessary to extract the milk when these parts are over distended or inflamed.

In respect to the necessity of the mother's suckling her child, Dr. DEWEES proves, we think satisfactorily, that she is compelled by *duty* to perform that task. It ought, also, to be regarded as a *pleasure*, which the fond mother unhesitatingly declares surpasses all others. Nor is this the only point of view in which this should be held; since experience teaches, that many diseases may accrue to the mother, from neglecting to perform this sacred duty. To the child, many injuries, both to his physical and moral system, may arise, by placing it into the hands of hired nurses. The first of these may occur from a deficiency of milk, the consequences of which are sufficiently known to the practitioner.

In reference to the results of a bad milk, the author remarks,

"When this happens, we find the child rejecting the milk soon after it is received; or it passes with rapidity and pain through the bowels. If the diapers be examined, the evacuations will be found copious and watery; offensive in smell; of a light green colour, and mixed with a portion of undigested milk curd. These discharges may not be very frequent, yet so large, as rapidly to weaken the child; a proof, that but a small proportion of the milk received had been converted into nourishment. The child becomes uneasy, fretful, and very frequently disturbed in its sleep; it suddenly cries, as if in violent pain, and again falls into unrefreshing slumbers. It becomes pale; its flesh is flabby; and after a short continuance in this state, emaciates suddenly, and becomes alarmingly ill with diseased bowels, or disordered head."—p. 56.

The child suffers often from a want of due care to its various necessities. The cares essential to its comfort, consist in the proper and regular application of the child to the breast, that it need not suffer from hunger, or be injured by too long abstinence; in the proper and due attention to cleanliness; and in the establishment of regular and useful habits, as regards its exercise, exposure, sleep, and evacuations. The proper discharge of these essential points, requires more affection for the child than is commonly found in a wet nurse.

The physical injuries which the child may suffer from the selfishness of its nurse, are very numerous, and have been peculiarly well pourtrayed by our author. We cannot, however, notice them here in detail, and beg leave to refer to the volume itself, all who are anxious to be well acquainted with them. Dr. Dewees has particularly dwelt on the practice common among these women, of administering clandestinely laudanum to the infant; and has detailed a case in which it was applied to the nipple. A nurse may, and sometimes does, propagate an active or occult disease to the suckling child; as, itch, tetter, and, in two instances which fell under our author's immediate care, the most loathsome disease was communicated, not only to the children at the breast, but to four others.

The next subject which engages the attention of Dr. Dewees, is the washing, dressing, and undressing of the child. He lays some stress, in contradiction to the opinion of some authors, on the necessity of removing the unctuous matter adhering to the

skin of the child, at the moment of birth. The following reasons are given:

"1st, When this substance has not been cleansed from the body, either from careless washing, or from the difficulty found in its removal, it has always produced a disagreeable smell. 2nd, When it has been suffered to remain from any cause, it has hardened itself so much, as to give pain from its mechanical irritation. 3d, When it has been suffered to dry, it has remained in some instances so long, as to leave the surface under it so severely excoriated, as to require particular attention for some days."—p. 62.

In removing it, cold water and rosin soap should be carefully avoided, and lukewarm water and fine soap had recourse to.

"The dress of the child should always be made subservient to comfort. If this rule be acted upon, it will be found to consist, 1st, in such arrangements of it, as shall sufficiently protect it against cold; and, 2nd, to ensure it against all inconvenient and injurious pressure and restraint, as well as producing too much heat; therefore, the cruel practice of swaddling should be forever laid aside."—p. 65.

The clothes should be so adjusted, as to leave sufficient room for the exercise of the child's limbs.

In cold weather, the arms may be covered, to encourage warmth; but they should never be fixed down. Nor should there be more clothing heaped upon the child than shall be necessary to protect it against the existing cold. In winter, or even in cool weather, flannel is absolutely necessary to form part of the child's dress, especially their shirts and petticoats. As far as practicable, the flannel should be fine and white. The principal advantage in the use of this substance, is, its non-conducting property of sensible heat, which renders it well calculated to protect the body against the too rapid escape of this important fluid. As a general rule, the younger the child is, the more of this article may be required; provided, however, it be not applied in "such a quantity as to create a vapour bath."

Flannel may be improper, 1st, Where it excites too much perspiration, as it sometimes does in young children, during the extreme heats of summer. 2nd, Where there exists any idiosyncracy. 3d, Where there is a febrile condition of the system. Dr. Dewees further recommends frictions upon the abdomen of the child with the bare warm hand, for a minute or two every time the child is

dressed, for the purpose of promoting the healthy action of its bowels.

When the child has arrived at the age of eight or nine months, the clothes should be shortened, so as to leave the feet and ancles free; by which it will be enabled to use its little muscles with greater facility. In order to prevent it from catching cold, stockings and soft shoes should be used; and to guard against the same effect, the child should be dried as quickly as possible after it may have become wet, by a speedy renewal of the diaper. Too many pins should not be used in dressing the child, and the most scrupulous attention must be paid to avoid making use of *needles* instead of pins.

The next subject to which attention should be called, is, "The feeding of the child in the month." (Chapter 14.) On this point, Dr. DEWEES makes the following remarks:

"We have assumed as principles, and, as we think, upon broad and well established data—1st, That the woman is the proper and only source, from whence a child, until a certain period, should derive its nourishment; 2nd, that every woman, cæteris paribus, is able to furnish it; 3d, that no other nourishment is so entirely proper, as the milk of a healthy woman."—p. 81.

When, however, owing to some peculiar circumstances, it is necessary to give the child something to sustain it, no other article should be selected but cow's milk, diluted with one-third of water, and sweetened with a little loaf sugar. In the administration of this substance, the following rules should be attended to:

"1st, The milk should be pure; that is, not skimmed, nor previously reduced by water; and should be used as quickly as possible, especially in warm weather, after it has been drawn from the cow. 2nd, When practicable, it should always be taken from the same cow. 3d, The milk should be given as soon as possible after its mixture with the water and sugar, lest it should be disposed to ferment before it is exhibited. 4th, It should never be mixed before wanted, and no more should be mixed than the child will take in a short time; for it is much better to prepare fresh, than to run the risk of its becoming sour before it is used. 5th, The milk should never be heated by the fire; it should always be done by adding the water hot, that is intended for its reduction; or by a sand bath; this will give it a sufficient temperature, without incurring the liability to be overheated by being placed on the fire. 6th, In weather that is unfavourable for keeping milk, it

should be placed in the coolest place that can be commanded, or kept in often renewed cold water. 7th, Should the slightest tendency to acidity be observed in the milk, it should be rejected without hesitation; nor should an attempt be made at its supposed restoration, by using an additional quantity of sugar, as this will eventually but increase the evil."—p. 83, 84.

Care should be taken that no more be given to the child than is absolutely necessary for its sustenance.

In regard to "the observances towards the mother during the month," &c. (Chapter 15.) and to "the duties of the mother after the month," &c. (Chapter 16.) we refer to the volume itself; as we find it impossible to present a satisfactory abstract of all the excellent directions given in these chapters. We shall, however, offer the following general rules, as given by our author himself, in the succeeding chapter.

"50, The woman should take exercise in open air, as soon as this is rendered safe, by the state of her health, the period after confinement, and the state of the weather. 51, She should never subject herself to partial exposure, under the hope of 'hardening herself.' 52, The re-application of the diaper after it has been dried simply, should be prohibited, as several evils arise from that practice. 53, The mother may indulge in such diet as her experience has proved to be innocent; for it will seldom or never disagree with the child, when it perfectly suits the mother. 54, When the mother experiences any inconvenience from the use of any substance or substances, she should not hesitate a moment to abandon them; for if they disagree with her, they will be sure to do so with the child. 55, Should there be a failure in the quantity of the milk, the mother must not attempt to increase it by highly seasoned food, and stimulating drinks. 56, She may, however, use, with great advantage sometimes, the nutritious substances recommended in the text."—p. 99, 100.

These substances are milk and water, milk alone, malt tea, molasses posset, or porter or ale posset.

Dr. DEWEES's remarks on the nursery are exceedingly valuable, and should be read in full by every practitioner and every parent. We regret that our limits will not permit us to enter upon this subject.

In Part II, "Of the physical treatment of new-born children," Dr. D. expresses the opinion, that *crying* should be looked upon as an exercise of much importance, both to the immediate and mediate advantage of the being. It is immediately useful, as it

facilitates the passage of blood through the lungs, and contributes more effectually to the expansion of the air cells of the lungs, thereby presenting a larger surface for the action of the atmosphere. The mediate advantages of crying consist in its giving strength and tonicity to these organs, and freeing them from the mucus constantly pouring into their cells.

Dr. DEWEES recommends that the child should be accustomed to sleep in rooms that are not purposely kept extremely silent; as by this means a morbid sensibility of the organs of hearing is not generated, and, consequently, the child will be exempt from all the evils and inconveniences this condition naturally inflicts.

In reference to the air which the child should breathe, our author remarks, that during the summer our cities become unfriendly to our very young population; and much benefit is derived by taking them to the country, when health has failed in the city. But this favourable change, he thinks, is not owing altogether to the purity of the air; much depending on removing children from the remote causes which produced the disease. "We are, also, certain, that the country air is not made the best possible use of, by those who inhabit cities; for no sooner does the warm weather commence, than they leave the city, and this when the children are in perfect health. In consequence of this, they become accustomed to the air of the country, as well as liable to any epidemic or local influence that may exist there. The object of leaving the city is now defeated, since it cannot preserve health to those who fly from it for refuge."

"We are persuaded, those who profit most by the change of air, are those who repair to it as a remedy—children who have suffered, or are about to suffer from the heat of our cities, derive immediate, as well as permanent advantage from the change—but when taken to the country early in the season, they appear to us to be as liable, or nearly as liable to disease, as if they had remained in the city."—p. 123.

Dr. DEWEES condemns, and we believe with great reason, the habit many have, of keeping the child at their bosom all night, with its head closely covered with the bed-clothes; on account of the injurious effects arising from the want of renewed air, for the purposes of respiration, and the carbonic acid gas, and insensible

and sensible perspiration emanating from the surface of the woman's body.

Of temperature it is remarked, that children of tender age should never be suddenly subjected to great changes of temperature, whether the change be from a high to a low one, or the reverse. When a child is exposed to a cold atmosphere, the danger does not arise so much from the immediate effects of cold air upon the lungs, as from the subsequent action of the warm air upon them, and in which they must sooner or later be placed. Violent re-action soon follows that state of torpor which the cold air imposed upon the lungs, and inflammation will almost certainly be the result. The sudden attempt to "harden a child," as it is called, in cold weather, is only another determination to see how much a child can bear, without dying under the experiment. It should, therefore, be guarded against.

The practice common among many parents, of exposing the arms of the child to cold, should be condemned. Mr. PORTAL has shown the great connexion existing between the upper extremities and the lungs, by means of the cellular tissue of these parts. Whatever, therefore, does injury to the upper parts of the arms, or arm pits, will be felt by the lungs. Hence the injury arising from exposure of these parts to cold. Dr. DEWEES is a strong advocate for a moderate exposure of children to cold air, and prefers allowing them fresh air in the house, to sending them at all seasons and at all temperature, in the open air. The degree of temperature to which the child is to be exposed, must be proportionate to the strength of his constitution; and as this varies in each individual, so must the degree of exposure. The other extreme, however, that of varying it too much, and accustoming them to too warm a medium, is alike injurious and should be carefully avoided.

In the chapter on "Food," Dr. DEWEES presents an outline of the causes which may render it improper for the mother to nurse. The 1st is, where there is no provision made for the nourishment of the child; or where this is not in sufficient quantity, owing either to a natural or accidental derangement of the breasts, or the imperfect performance of their duty. 2nd, Where the supply may be sufficiently abundant in the commencement, but where it habitually fails in a short period after, owing to some

constitutional defect, which is perhaps neither evident nor remediable. 3d, Where, upon former occasions, it was unquestionably found to disagree with the child. 4th, Where there is a strong venereal or scrofulous taint in the constitution of the mother. 5th, Where suckling produces an active or painful disease in the mother, as cough, colic, &c. 6th, Where the mother is so situated as she cannot avoid provocation, grief, or sorrow; or possess an irascible and bilious temperament; or is subject to great nervous debility, accompanied by great susceptibility to every stimulus. Wherever, also, parents labour under chronic diseases, the predispositions of which are likely to be transmitted to their offsprings, it is proper that these latter should abstain from the breast of such parents, and be provided with other means of support.

In respect to the management of the meconium, experience shows, and nature points out that it should be evacuated as early as circumstances will permit; for she has provided for this important end, by means of a substance called colostrum, found in the mother's breasts, upon the first application of the child to them. In order to derive the desired effect, however, the child must be placed early to the breast; for if this be neglected until the secretion of milk is completely established, it becomes too diluted to serve this important end; and artificial purging must be had recourse to. Drastic purges must, however, be carefully avoided, as they are often productive of great injury to the infant. In general, a little molasses and water, or a little sweet oil, will answer the purpose. It is necessary that the physician should examine the evacuations; for so soon as they cease to be tenacious, and of a dark-green colour, the bowels have been sufficiently evacuated, and the medicine must be discontinued.

Our author is firmly persuaded that the following are the principal means, by which the immense mortality among children may be diminished.

"1st, Let none but a mother, when she herself is able, have the immediate charge of her child; for she alone should supply it with food; it is she alone should supply it with medicine. 2nd, Let every mother make herself well acquainted with the best opinions upon the physical management of children; but never let her aspire to their medical treatment, except from dire necessity. 3d, *Let no mother*

trust another to count out doses of laudanum, while she herself retains the faculty to do so, unless the person thus chosen has as deep, or nearly as deep, an interest in the child, as the mother herself. 4th, In case of indisposition, let the mother confide in no judgment for her child's disease, but that of her physician, if his advice can be commanded; and above all, let not his prescription be interfered with by the obtrusive advice of a nurse, or still more ignorant old woman. 5th, Let a mother place no undue confidence in the prescriptions of a nurse, under the persuasion that her *experience* must be valuable, when the advice of an experienced physician can be obtained." p. 150.

When there is such a reduction of the mother's milk, that it will but imperfectly nourish the child, the deficiency may be obviated by giving the infant the mixture of cow's milk, water and sugar, before mentioned. This may be administered in one or two ways; by the spoon, or by the bottle. We should, however, never recommend the first, if the second can be enforced. The child must not be confined, however, to this simple diet until the period of weaning. After the fifth month, and in cool weather, the addition of barley, gum arabic, or rice water, or a small quantity of arrowroot, may be permitted. After the appearance of the teeth, some of the farinaceous substance may be added, and after their completion, and even a little earlier, animal substances may be allowed, with perfect propriety.

An error is very commonly committed in the early exhibition of animal food; it is imagined that all kinds are equally proper, and this either salted or fresh. Experience proves that beef, mutton, fowl, are much to be preferred to veal, lamb or pork. Oysters are very unexceptionable articles of diet. The most proper mode of exhibiting these substances is in the form of tea or thin soup, without the admixture of vegetable matter. "Occasionally," our author continues, "we have known the stomach reject those animal solutions. In such cases, where the change of diet is desirable, we have found the substance itself, when divested entirely of its fat, answer very well, it should, however, always be chopped up very fine, and given in very small quantities at a time."—p. 160.

There are cases in which the mother is obliged to use artificial means entirely. In these, recourse must be hadto the sucking-bottle, which must be regarded as a great improvement in the rearing of children. In such instances in which the bottle cannot be

used, (which but seldom happen) a wet nurse must be provided. For the purpose of keeping the bottle sweet, the following rules must be observed.

"1st, Never put a second supply of milk, or food, upon the remains of a former, unless a very short interval has elapsed, and they are of the same kind. 2nd, So soon as the child has taken as much as it chooses, or as may be judged proper for it, let the bottle be emptied, if any food remain, and immediately cleansed by hot water. 3d, When well cleansed by hot water, let it be thrown into, and kept in, a basin of cold water, in which there is a little soda dissolved. 4th, Before using it, let it be well rinsed with clean cold water. 5th, Let the extremity from which the child is to suck be covered with a heifer's teat, in preference to any thing else." And,—with a view to its preservation, the following rules must be observed.

"1st, Let this teat be one that has been preserved in the best possible manner, by those who understand this art. 2nd, Let not the teat be of too large a size; nor one that will permit too rapid a flow of the food, especially for a very young child. If it be found to pass too freely, let the piece of sponge which is, or always should be, at its extremity, be either enlarged or more strongly compressed. 3d, Immediately after the bottle has been used, remove the teat from its mouth; and let it, and the sponge, be well washed, and kept until again wanted, in a little whiskey and water. When re-applied, let it be attached by a piece of clean thread, as the former piece will be sour. From what we have said, it will appear that we prefer the flat oblong bottle, with a teat, to the bottle and tube—and we do this for the following reasons: 1st, The extremity of the tube is never so well received by the child, as the teat; nor is it so comfortable to its mouth. 2nd, The tube frequently becomes obstructed by the curd of the milk; and it is oftentimes difficult to remove it; and if not removed, its objects will be defeated. 3d, It is much less convenient; requiring much more address in the management of it, than the bottle. 4th, It is much more difficult to keep clean, or sweet; consequently, must be improper in proportion to that difficulty."—p. 164.

Whenever it becomes necessary to make use of a wet nurse, the greatest care should be taken to select a proper one. St. Marthe, in his Pædotrophia, as translated by Dr. TYTLER, gives the following directions by which we are to be regulated in our selection.

"Choose one of middle age, nor old nor young,
Nor plump, nor slim her make, but firm and strong;

Upon her cheek, let health refulgent glow,
In vivid colours, that good-humour show.
Long be her arms, and broad her ample chest,
Her neck be finely turned, and full her breast;
Let the twin hills be white as mountain snow,
Their swelling veins, with circling juices flow;
Each in a well projecting nipple end,
And milk in copious streams from these descend.
Remember too, the whitest milk you meet,
Of grateful flavour, pleasing taste, and sweet,
Is always best; and if it strongly scent
The air, some latent ill, the vessels vent."

In addition to this, it must be remarked, that she must be exempt from her catamenia. As a general rule, also, young milk should be selected when it can be had, even for an older child, provided the disparity be not too great.

In respect to the drinks for the child, they should consist, in healthy children, of nothing but pure water, and care ought to be taken to abstain from giving them ardent or fermented liquors. Nature never intended any thing stronger than water as the drink for children; this they enjoy greatly, and much advantage is occasionally experienced from its use, especially after children have commenced the use of animal food.

The period of weaning is one full of solicitude and pain to the affectionate mother; and it is consented to, with a reluctance that declares the pleasure which the act of sucking had produced; as well as betrays anticipations of dangers, which may await the change. On the part of the mother, there are various circumstances that may render weaning indispensably necessary. 1st, She may be attacked with some constitutional affection, which may so reduce her, as to make it highly improper she should keep the child longer at the breast. She may be so depleted in the course of acute disease, as to prevent the system from furnishing the proper quantity of food necessary to nourish the child. 2nd, She may be attacked with some local affection, that may render suckling extremely inconvenient, as well as improper; as milk abscess, &c. 3d, The supply of milk may be so diminished, even without any evident cause, as to render it altogether insufficient for the support of the child; consequently, both may be injured by a perseverance. 4th, Some writers have maintained, that when a

woman who suckles a child becomes pregnant, she should wean the infant. This opinion can originate only from the idea, that under these circumstances the milk becomes altered in quality, and diminished in quantity. Our author is not aware, however, from his own experience, that these results must necessarily occur; and tells us, that he has observed, for many years past, the following rule: that if the milk disagrees, (as is readily known by its being almost immediately rejected in a state of hard curd, or in a thin, semi-transparent condition, with a peculiarly disagreeable smell,) the child must be separated; but if it do not produce these effects, the child may continue at the breast until the proper time of separation, or at least until some injurious effect manifests itself.

When the child has reached the eleventh or twelfth month of its age, it is generally thought to be sufficiently advanced to take it from the breast. But it is improper to lay down any rule on this subject, formed on the age of the child. It would be more proper to regard the presence of teeth, at whatever age of the child this may occur, as absolutely necessary to the success of weaning. This is the more likely to be the surer guide, as the cutting of the teeth is, in general, a certain indication of the state of the stomach, or of the digestive powers.

The situation of the child's health must have a decided bearing on the propriety of weaning; for it may be much reduced by previous illness, or labouring under actual disease, so as to render this privation highly injudicious. Therefore, weaning must not be thought of at this time. The period of the year will much influence a decision on the question of weaning.

"The season of the year may render this act convenient, inconvenient, or improper. 1st, The convenient season of the year will be all that period, when its temperature shall be moderate; as the months of March, April, May, June, October, or even early in November; when the nights are neither excessive in length, nor the atmosphere severe in temperature. 2nd, It may be inconvenient from both these last named causes; as the months of December, January, and February. 3d, It may be improper, in case of diseases arising from, or incident to, a certain part of the year, being always aggravated in newly weaned children; as in the months of July, August, and September. Therefore, weaning should be in part regulated by these considerations. When weaning has been determined on, and rendered proper

by the condition of the child, it will in a great measure be prepared for this process beforehand, if it has been properly attended to, by having occasionally received other nutriment than the mother's milk. The task is then in part performed; and the whole of the trial may be rendered less severe, by the observance of the following rules:

"1st, Accustom the child, from time to time, to take other food than its mother's milk, by feeding it on bread and butter, bread and milk, rice and milk, &c., or occasionally on beef, mutton, chicken, or oyster tea; or by giving small quantities of either of these substances in a solid form, as has already been directed. 2nd, Let the mother give the breast at longer intervals, and gradually prevent its being the principal support of the child. 3d, Let the child, after a little longer time, receive the breast as seldom as possible. 4th, Endeavour to excite an averson to the breast, and thus induce the child to withdraw itself from it, rather than permit it to feel the want of the breast as a privation. 5th, This aversion may be excited in one of two ways—either by touching the nipple with some bitter or disgusting substances, as aloes, garlic, assafœtida, &c.; or covering them with a forbidding one, as black wool, ink, court plaster, &c. 6th, When you commence this severe process, be firm; and let no importunity of the little pleader overcome your resolution, or your work will never be finished."—p. 191.

With due care, the woman will not experience much inconvenience from weaning. But in the majority of cases, there will be a painful distention of the breasts; for the relief of which, the following precautions must be observed:

"1st, After the child is separated, she should abstain as much as possible from all fluid nourishment; eating nothing but the driest food, as crackers, boiled rice, potatoes, boiled meats, or poultry. 2nd, Let her avoid all salted articles, as they will increase thirst, and oblige her to drink. 3d, Let her drink nothing but pure water, and that in small quantities. 4th, Let her take a brisk dose of salts, if the pain be considerable; and avoid exercise as much as possible. 5th, If the breasts be very much distended, and very painful, rub them with a little warm sweet oil, or fresh hog's lard. 6th, Let the breasts remain without drawing, as long as it may be supportable; and when drawn, let it be only in such quantity as shall remove the distention. 7th, Let the intervals of drawing be each time longer."

The succeeding chapter contains an accurate and tolerably minute account of *teething;* from which our limits will not allow us, however, to make many extracts. Speaking of the instinct by

which children are led to press upon every thing hard or resisting that is presented to their mouths, our author remarks:

"We are of opinion, that the following advantages are derived from indulging this instinct in children: 1st, it relieves the pain or anguish of the tender gums, by pressing upon them, as squeezing an inflamed finger, as in felons or whitloes, and in many other instances; 2nd, by gently stimulating the gums, absorption is unquestionably promoted, and the teeth, in consequence, more quickly appear; 3d, it seems constantly to promote the salivation, by which the engorged vessels relieve themselves."

Dr. DEWEES does not think that very hard substances, as ivory, coral, &c., made *round*, are as proper as such as are softer or flatter, as a piece of orice root, scraped liquorice root, or a flat ivory ring. The rubbing of the gums with the finger, affords great relief to the little sufferers; but honey, powdered sugar candy, &c., should be prohibited. We pass over the observations on second dentition, and proceed to say a few words on "the food proper for children, after the first dentition, and weaning." (Chapter 9.) It must be evident to every one, that to feed the child upon such food as would require great powers of mastication, would be highly injurious. But it is not the quality of the food alone that is to be attended to when a change is contemplated—we should be particularly careful that this change be not made too suddenly. In respect to the interval between the meals of the child, great regularity should be observed; but it is not possible to lay down any general rule on the subject, since the intervals must, in a great measure, be contingent upon the powers of the stomach itself; and these must necessarily vary in different children. A sufficient time must be allowed for the complete digestion of the aliment contained in the stomach—nothing being more injudicious than to disturb the digestive process by any new introduction of fresh food. The food of children, at this period, cannot be too simple. The various jellies from vegetable substances, as of tapioco, rice, sago, or arrowroot, are very proper, especially when combined with fresh milk. They must not be given in improper quantity, as during dentition the system is almost always in a highly excited state, and is readily roused, by many causes, into fever. Some parents find it very difficult, however, to resist the importunities of their children for food; and hence arises that habit of

indulgence, which has made many victims among children, at this early period of their life.

When children have their first teeth complete, they may be indulged, now and then, with small quantities of animal food; but it should not constitute their principal support, since it may overturn the stomach, and too much excite the system. The drink of children should be pure water, or milk and water, and on no account should they be allowed liquors of any sort whatever. All kinds of meat are not proper, as among them, some are of more easy digestion than others. For these reasons, beef, mutton, lamb, venison, fowls, turkeys, pheasants, partridges, &c. are to be preferred to veal, pork, pig, geese and ducks. These substances for young children, should be plain boiled or roasted, and care must be taken that they be not too rare. As a general rule, animal food should be taken in the morning or at noon, though the latter period must be preferred; nor should less attention be paid to the quantity given. Before puberty, moderate portions must be allowed, and there should be a predominance of either vegetables or milk. Only one vegetable should be given at a time, and consist of either rice, potato, spinage, asparagus, turnip and squash. Beans of every kind, cabbage, beets cooked with vinegar, peas, sorrel and cucumber, are far less proper.

In regard to food which may be absolutely hurtful to children, Dr. Dewees enters pretty largely. We cannot follow him on this important subject, and must take the liberty to refer to the book itself for much interesting matter.

Under the head of exercise, our author treats 1st, of the exercise and motion useful or proper for very young children, up to the period of their beginning to walk; 2nd, walking; 3d, other modes of exercise. A. riding in a carriage; B. riding on horseback; C. games of various kinds; D. Dumb bells.

It must be admitted by every one, that the sooner we commence with this important part of physical education, the sooner will the muscular system acquire the tone so important to the many other functions of the body. But it is necessary that exercise should be proportioned to the age and strength of the child. In the early period, carrying the child in the arms, and placing it in such a position, that it will have a free action of its little muscles, is all that can, with propriety, be done; for the practice com-

mon with many nurses of placing the infant erect or sitting, at a too early period, is decidedly wrong.

"It is evident to every reflecting mind, that the incompletely ossified spinal column, is ill calculated, at the period now supposed, to sustain the weight of the whole body, and the head besides, and when forced to do so by this injudicious management, it must yield in a greater or less degree; hence crooked spines." p. 223.

Dr. DEWEES lays down the following rules for carrying children on the arm:—

"1. It should never be so placed upon the arm, as to oblige it to support itself, or fall backward. To prevent this, the hand of the arm on which the child does not rest, should be so placed over its body and chest, as to give a certain support to the whole body. 2. It should never be carried upon the arm, without additional support, until the muscles of the neck have acquired sufficient strength to carry the head straight, for reasons already suggested. 3. It should not always be confined to one arm; for if it be, it will, from maintaining one position too long, contract a habit of leaning to one side, or become crooked—therefore the arms should often be changed. 4. It should not be made to put an arm around the nurse's neck, while placed on the arm for carrying; as it will do injury to the side and back, by forcing out the shoulder-blade. 5. It should not be too firmly grasped by the nurse's arm, lest it bend or distort the bones of the pelvis, thighs, and legs; and on this account, the child should not be often trusted to those who are unskilled in carrying one; as they always embrace the child very firmly, from an apprehension they may let it fall—an experienced nurse can carry a child without much pressure. This rule is of especial consequence to such children as may be disposed to rickets."

Dr. DEWEES is decidedly of opinion that children ought to be allowed to learn to crawl, and that parents should never endeavour to interrupt this acquirement; because he has constantly observed, that those children who do so are always more robust and better confirmed in their walk, (though they sometimes do not begin so early,) than those who have been taught to walk without this useful intermediate step. Parents and nurses should be cautioned against the unnatural practice of forcing very young children to "find their feet;" since curved legs are almost sure to result from the practice. Children disposed to rickets should be particularly preserved from this mischievous exercise. Much advantage is oftentimes gained by the well regulated use of "the

baby carriage," so constructed as to prevent all danger of oversetting. It should be drawn steadily, at a very moderate pace, and never violently jerked. Riding on horseback is perhaps the most beneficial exercise for the child who has attained the proper age for it. Therefore, a child, either male or female, should be early instructed in this important art.

Our author enters fully on the advantages of bathing and cleanliness, and expresses his opinion, founded on an extensive experience, that for children, the warm is decidedly more beneficial than the cold bath. The reasons he adduces for adopting this opinion, are, we believe, conclusive, and the whole chapter is highly deserving of a careful examination.

The subject of "dress" is one of no inconsiderable interest, and has been treated by Dr. Dewees, with a talent which could result only from long practice, and a close examination. We cannot devote more time to this subject, than to state that the dress of children should be loose, and we perfectly agree with our author in opinion, that much benefit must result to the future generation, from the present mode of dressing children, and the adoption of suspenders, by which the necessity of dressing them tight is obviated. In respect to the quantity of clothing which ought to be allowed a child, it will only be necessary to state, that children should be covered sufficiently to protect them from the action of cold, and that *extremes* must be carefully avoided. In a climate as changeable as ours, it is indispensable, that a corresponding change be observed in clothing, not only in different seasons, but at different periods of the same season. The quantity of dress should likewise be varied agreeably to their mode of life; those who take much exercise in open air, requiring much less clothing than such as lead a sedentary life.

The next subject which engages the attention of Dr. Dewees, is the period included between second dentition and puberty. He lays down excellent rules in regard to the eating, sleeping, and exercise of children at that age. We are sorry that our limits will not allow us to offer to the reader, a sketch of this interesting chapter; but as all these rules are linked together, we are compelled to refer to the volume itself, which we hope to see before long in the hand of every student and practitioner.

As this article has extended already to considerable length, we

must postpone to a future number, an analysis of the treatise on the diseases of children, which forms the second division of the present volume. In concluding this analysis, we must beg leave to congratulate students on their possessing so valuable a guide for their conduct, in the physical treatment of children. It will constitute no mean addition to the growing Medical Literature of our country; and when in a second edition a few repetitions are omitted—the language a little purified, it will safely suffer a comparison with any book extant on the subject.

ARTICLE XI.—*Anatomie comparée du Cerveau dans les quatre classes des Animaux Vertébrés appliquée à la Physiologie et à la Pathologie du Système Nerveux. Par* E. R. A. SERRES, *Chevalier de l'Ordre royal de la Légion d'Honneur, Médecin ordinaire de l'Hôpital de la Pitié, Professeur agrégé de la Faculté de Médecine de Paris, Chef des Travaux Anatomiques de l'Amphithéâtre des Hôpitaux, Professeur d'Anatomie et de Physiologie du même établissement, Membre de l'Académie royale de Médecine de Paris, de la Société Philomatique, de la Société de Médecine de Stockholm, &c.*

Ouvrage qui a remporté le grand prix à l'Institut royal de France. Tome premier avec un Atlas de seize planches grand in 4° representans trois cents sujets, dessinées et lithographiées par Fertel sous les yeux de l'auteur, et accompagnées d'une Explication. P. 576, *avec p.* 112 *d'introduction. Paris.*

An Exposition of the Natural System of the Nerves of the Human Body, with a republication of the papers delivered to the Royal Society, on the subject of the Nerves. By CHARLES BELL, *Professor of Anatomy and Surgery to the Royal College of Surgeons; Teacher of Anatomy in the School of great Windmill Street, and Surgeon to the Middlesex Hospital. Republished by H. C. Carey & I. Lea, Philadelphia,* 1825, *pp.* 165, *with plates.*

As much of the study of medicine, and especially of pathology, consists in tracing the reciprocal action of the organs of the human body, whereby disordered function in one part is followed by disease, in other parts near or remote, we cannot too sedulously study the nervous connexion between the several organs.

The nerves are the chords, and the brain the centre, of sympathies, and without which there were no sensations and consciousness.

The larger the development, and the more vigorous the action, of the entire nervous system, the higher does the animal thus endowed, rank in the scale of created beings. Not only then is this a subject of paramount importance to the physician, who desires to ground his therapeutical principles on something like demonstration and experiment, but also to the philosopher, who would wish to study the co-ordinate action of mind and matter, and attain a knowledge of the laws by which organization is made the conductor, and, for a time, the recipient of those nobler powers of reason and thought; those subtle essences, the intimate nature of which has hitherto escaped, and probably ever will, elude our investigations.

The prediction of the celebrated Frenchman,* that if we are to have a correct philosophy of the human mind, the discovery must come from the physician, seems nearer its accomplishment than was until late years imagined or expected. In the instances of REID, and PALEY, and BROWN, we find that in proportion as metaphysicians and ethical writers adhere to physiology or the study of life, as evidenced in the corporeal functions, they become more able expounders of the operations of intellect, and of the influence of sentiments. Hazarded as may seem this assertion, and open as we may herein appear, to the charge of professional pride, we stand prepared, if not in these pages, at least in future numbers of this Journal, to make it good.†

In approaching the subject of the nervous system, it is peculiarly fitting that we should possess sufficient data in a knowledge of structure and successive formation and connexion, on which to ground our belief of functional action. Such data are most plau-

* Descartes.

† "IV. Happiness consists in health. By health, I understand, as well freedom from bodily distempers, as that tranquillity, firmness and alacrity of mind, which we call good spirits, and which may properly enough be included in our notions of health, as depending commonly upon the same causes, and yielding to the same management as our bodily constitution." *Paley's Moral Philosophy, Chap. VI.* How can the above-mentioned states of the mind be treated of without a knowledge of the condition of the body on which they depend, and of the corporeal changes by which they disappear.

sibly presented to us in the works of M. Serres, which we think goes far to fulfil the first conditions in physiology, viz: that a part is to be found developed in proportion as it is required to perform office, and its junction with another part is to precede its co-ordinate or subservient connexion in function with that part. This is the first division of the physiology of observation. The next consists in a careful noting of the phenomena of health in a perfectly organized and living body, whereby we see impressions on one organ produce vital motion and sensation in another, leading us, of course, to infer, that there is a necessary material or structural connexion to produce the sympathy between the two organs. Evidences of this nature are furnished in the work of Mr. Charles Bell, to which we propose directing the attention of our readers in the present article. The completion of proofs of the peculiar function of an organ or animated structure, is found in the phenomena attending its diseased or pathological condition, and on this head we shall find that both M. Serres and Mr. Bell, furnish us with many interesting details. The means intermediate between the two above-mentioned ones for the study of physiology, is by experiments, made on living animals, which go to prove indirectly the functions of a part and its relation to others, by showing the effects produced by its removal. This shall form a distinct branch of inquiry in the succeeding numbers of this Journal, and shall be followed by an analysis of the valuable works of the French Pathologists on the alterations of structure and diseases of the brain, spinal marrow, and nerves. We hope in fine to furnish our readers with a brief but authentic history of all the departments of medicine, and a record of the laws of each, deduced from experiments and observation. While we draw freely from the past, we shall not, however, be unmindful of the present. It is not so much a nation or a year that we desire to commemorate, as the successful efforts of our profession, at all times and in all countries to fix, by careful experiments and observation, and cautious inductions, the fleeting characters of disease, and the rapidly alternating phenomena of function.

The first work which we propose analysing, places its author, M. Serres, on very elevated ground, as a patient and laborious anatomist and physiologist. His field of study and observation has been indeed of the most extensive kind: equal to that enjoyed

by any living, or perhaps we may add any preceding physician, for the investigations into all the varieties of animal structure, and of healthy and diseased function; hence the additional int[illegible] which he throws on all physiological inquiries, in their pertinency of application to pathology, and the support which, in his hands, the latter imparts to the former—an advantage this, denied to the man of mere reading and experiment. His work, "Des Lois de l'Osteogenie," gained him the prize for experimental physiology in 1820, from the Royal Academy of Sciences, and the one now under consideration, was productive of a similar honour in 1821. His treatise on apoplexy, composed in the same cautious spirit of induction from ascertained facts, and observed phenomena, has already, by means of a translation in a respected cotemporary journal, made him advantageously known to the American physician.

Without any very pointed reference at this time, to the real or presumed priority of view on the part of GALL and SPURZHEIM, REIL and TIEDEMANN, respecting the formation and progressive development of the several parts composing the human brain or encephalon, or attempts to estimate the correctness of their observations and opinions, comparatively with those of our author, we shall at once proceed to give the grand outlines of his work; not that we intend to waive the numerous corroborative details with which he so lavishly furnishes us, nor forego our right of weighing them in the same scale with those presented by the above-named German anatomists. This task we shall endeavour to accomplish ere we bring our review to a close; but at present our readers will, we are sure, prefer becoming acquainted with the leading facts and deductions of M. SERRES himself, to any arguments and hypotheses which may grow out of his differing from others.

Fortunately for our purpose, the author has, in his preliminary discourse, consisting of more than a hundred pages, and in the concluding chapter of his work, furnished us with a full and well measured outline of his observations and inferences, so that in using his own language, we run no danger of being accused of misrepresenting him.*

* We have said above, that M. SERRES has enjoyed opportunities of no common kind for prosecuting the study of physiology and pa-

In his office of Professor of Anatomy and Physiology, at the large hospital of La Pitié, he was in the practice of devoting a portion of his lectures on anatomy, to the physiology and pathology of the nervous system. After having displayed the changes which occurred in the functions of the human brain, according to the part disorganized by disease, he endeavoured to produce similar changes artificially, in the individuals composing the four classes of the vertebral animals. He thus threw light on pathological researches by physiology, and on physiology by pathology.

He was, however, often arrested in this part of his course, by the difficulty of determining the divisions of the brain in the three inferior classes of animals. Entertaining doubts as to the accuracy of the guides which anatomists had usually followed, he thought at the same time that improvements might be made. He was particularly struck with the felicity of the comparison, made first by GEOFFROY ST. HILAIRE, and subsequently by CUVIER, between the bones comprising the heads of the animals of the three inferior classes, and those of the head of the embryos of the mammiferæ, and the results to which it gave rise. He thought he could perceive in the encephalon of the inferior classes, the permanent

thology, and as we hope in the future numbers of this journal, to benefit ourselves and readers by references to his other works, it may not be unacceptable to them, to show on what grounds our assertion is founded. In the early part of his medical career, he derived from the lectures of the celebrated CUVIER and DUMERIL, a taste for comparative anatomy, in the study of which, he was subsequently enabled more fully to indulge, from his intimate connexion with that distinguished naturalist, GEOFFROY ST. HILAIRE. Appointed in 1812, superintendent of the anatomical labours at the grand amphitheatre for the hospitals, and professor of anatomy and physiology in that establishment, he endeavoured to apply the ideas acquired by comparative anatomy to the science of man, and with a success which convinced him of the propriety and utility of the combination. The anatomy and physiology of the nervous system were always favourite studies with him, and as far back as 1810 and 1811, he had begun his researches into the organic diseases of the brain. In 1813, circumstances growing out of the war, which terminated in the occupation of Paris by the allies, caused an accumulation of the sick soldiers, beyond the ability of the regular medical officers to manage, and in consequence, many of the civil were converted into military hospitals. Among the former, that of the Pitié, of which M. SERRES was one of the physicians, was specially appropriated to the diseases of the nervous system. During seven years that the hospital preserved this destination, two thousand cases of this class of maladies were passed in review before him.

representation of the fugitive forms of the same organ in the embryo of the mammiferæ. This was his point of departure. Profiting by the happy ideas of GALL and SPURZHEIM, he brought back the brain of birds to the type of the mammiferæ. He then passed on to the brain of the reptiles, which was more simple, and terminated by the fishes, the brain of which had been a perfect labyrinth of doubts.

A skilful painter, M. FERTEL, had the patience to follow him in all his investigations; and to paint, under his own eyes, the twelve hundred figures, lithographic copies of which now constitute the atlas accompanying the published work. Finally, in the friendly assistance of the two CUVIERS,* and of GEOFFROY St. HILAIRE, our author acknowledges having had opportunities afforded him, without which he might in vain have attempted so extensive a range of inquiry.

M. SERRES begins his preliminary discourse, by telling us, that although anatomists and physicians had dissected the brain three thousand years ago, and for three centuries past had made it the more especial object of their investigations, still the foundation of this part of the science is not yet laid, the elements of the encephalon are not determined even in the vertebral animals.

He next endeavours to account for this omission, in the fact of the ancient anatomists, forbidden by the prejudices of paganism to dissect the human body, being obliged to have recourse to those of animals; and subsequently, by a singular re-action in the sixteenth century, the science taking quite an opposite direction, man was then dissected, and every thing referred to him. The anatomy of animals was inferred from that of man. No very great prejudice resulted to the study of the brain, so long as observations were confined to the mammiferæ; since, proportions kept, this organ is the repetition of itself, in the different families composing the class.† But, on attempting to examine the brain of

* In France, the celebrated or great Cuvier is at present usually distinguished as Baron Cuvier. The other is Frederick Cuvier, the brother. When we speak of Cuvier, without any other specification, we allude to the Baron.

† Our readers need hardly be reminded of the generally recognised divisions of the animal kingdom. These are four: 1, *Animalia Vertebrata*; 2, *Animalia Mollusca*; 3, *Animalia Articulata*; 4, *Animalia Radiata*. The first or vertebral animals, have the common cha-

birds, by what was thought a certain method, difficulties immediately occurred. The cerebrum in front, and the cerebellum behind, were soon recognised in these animals; but at the middle part, a pair of lobes was met with, which had nothing analogous in man, or the mammiferæ, generally. The chain of resemblance being broken, was not again linked, when the brain of fishes came to be studied. The difficulties were complicated by anatomists neglecting the precept of VAROLIUS and BARTHOLINUS, and giving into the practice of dissecting the human brain from its upper part downwards, and that of the mammiferæ, from before backwards.

The circumstance of form, which had so successfully guided anatomists in the study of the mammiferæ, and led them to recognise the cerebellum and cerebral hemispheres in birds, was of no avail when they came to fishes.—p. 5.

At first glance, there is nothing in this last class to remind us either of the encephalon* of the mammiferæ, or that of birds. This organ in fishes is composed of a double series of bulbs, in a line from before backwards, sometimes to the number of two, more frequently of four, and not seldom of even six. To which pair ought we to give the name of cerebral hemispheres? Is it the anterior, middle, or posterior? To what part of the brain of the superior classes refer the other lobes;—and on what lobes establish analogies and differences? The cerebellum itself, which it is difficult to overlook in the other classes, was still in fishes an object of doubt. Sometimes, this part is single, and without division, as in the superior classes: in other cases, it is a double organ, composed of symmetrical leaflets, rolled on each other along the sides of the fourth ventricle. In a great number, a peculiar body

racters of a brain and spinal marrow, inclosed in a long case, consisting of a cranium and vertebræ; ribs, and also the bones, comprising the scaffolding of the body, attached to this middle column; muscles in general covering the bones on which they act; and the viscera inclosed in the head and trunk. This division is subdivided into four classes—1, The *mammiferæ*, including man and quadrupeds, and distinguished by a viviparous generation. The three other classes are oviparous. The second class includes *Birds*; 3, *Reptiles*; 4, *Fishes*. —*See Cuvier's Régne Animal.*

* We use the term encephalon as synonymous to, though less ambiguous, than brain; and as indicating the entire contents of the cranium.

is detached from the posterior lobes, and makes the organ more complex. This body, which sometimes resembles the uvula of the human subject, and at others the epiglottis, is placed in the form of a cover or lid to the fourth ventricle. It is more frequently simple; at other times, as in certain rays, it is double, and the posterior half directed to the fourth ventricle, and the anterior one covers the posterior lobes. How, amid all these transformations, are we to detect the cerebellum?

The base of the encephalon of fishes is scarcely less variable than its upper portion. What most strikes us in the former, are two rounded tubercles, which, by their situation and form, have some resemblance to the *eminentiæ mammilares* of the human brain. Nor have there been wanting persons to admit this analogy, and to exclaim, how wonderful, that these eminences, or marks of the most elevated organization, should be found in fishes, which seem so low in the animal scale! Following up this illusory idea, their posterior lobes were compared to the cerebral hemispheres; and anatomists pretended to find in these lobes, the optic bed, the *corpus striatum*, *cornu ammonis*, the *fornix*, and even the *corpus callosum*. Hence, an attempt to elevate the fishes above the two classes of reptiles and birds, with an entire oversight of all the other anatomical and zoological characters of the vertebral animals.—pp. 6, 8.

As already hinted, it became then an object of paramount necessity, to establish the proportionate relations of the different elements of the encephalon in the vertebral animals, by detecting in all the classes the identity of the parts of which this organ is composed, and to establish this discovery on bases the same for all. Comparative anatomy rests entirely on the certainty of the discrimination. The difficulty consisted in recognising this identity in the midst of the variety of form, relations, and proportions, presented in all these elements. Physiology had lost its natural simplicity of character, and certainty of results, in consenting to be under the influence of a dogma that taught the pre-existence of germs, which were thought to possess the same number of organs and connexions as the animal of which it was assumed to be the type. The study of organization was stopped by such hypothesis. The butterfly was seen in its larva state; the frog in the first rudiments of the tadpole; the entire bird in its egg; and the complete

organization of the mammiferæ, in the first mucus, which separated them from non-existence. Monsters did, indeed, for a while, form an exception to this general explanation; but, as is customary with system mongers, the difficulty was easily obviated, by imagining the germ of monsters, the existence of which had been eternally preserved in the ovaries of the females.—pp. 11, 13.

Such a course of mental aberration could not last long, when men desired to ascend from facts to principles, and test principles by facts. The stupendous conception of the pre-existence of germs was supplanted by the more simple, but not less majestic idea of the successive formation of parts.

Embryos are not, as once thought, the miniature of adult animals. Before attaining the permanent forms, their organs pass through a number of fugitive states, more and more simple, as they are nearer the point of departure.

What are the general relations,—what the laws, which preside over the organization of animals? This, says the illustrious CUVIER, is the end to which ought to be directed all the efforts of those who cultivate the natural sciences.

Acting on this recommendation, DUMERIL, by embracing in one view the relations between the vertebræ and their muscles, emits the singular idea, that the cranium of animals is only a large vertebra, and the brain is the spinal marrow swelled out. This opinion, at first looked upon as the extreme of paradox, is now received as classical. and as having changed the face of natural history, by introducing a division entirely novel—that of homology.

But first, let us review the efforts of the human mind, in this department of science. HARVEY, with his wonted investigating spirit, observed the first rudiments of the heart of the chick, and imagines that this point, which he sees pulsate, is the root of the entire being; he thinks he sees it spread its branches into all the organs; and he announces that the animal is formed from the centre to the circumference.

MALPIGHI, who paid the forfeit of his life to the microscopical examinations which have immortalized him, went still farther than HARVEY, in explaining the formation of the embryo. He observed a fibril anterior in its appearance to that of the heart. This central fibril, which he denominates *keel*, seems to him to be the spinal marrow, which he thence regarded as the origin of all the

parts, all, according to him, nervous. BOERHAAVE, a great admirer of MALPIGHI, gave to this idea all the illusion of his name, and the charm of his style. Soon afterwards, HALLER, ALBINUS, and their most distinguished disciples, admit, as a general law, the central formation and development of the osseous system.

Strange, exclaims M. SERRES, nature had been interpreted in an inverted sense, and she was supposed to follow a course diametrically opposed to her real one. Ought we then to be astonished if her laws have been unknown? if, discouraged by their fruitless efforts, Zootomists have despaired of ever discovering them?

Our author now proceeds to lay down his fundamental positions. The first and principal one, the law on which all zoogeny reposes, is *the eccentric development of animals.*

Study, says he, the development of the membranes which precede the appearance of the germ, and you will see all of them formed from the circumference to the centre. Observe all the grand organic apparatuses, and you will see them constantly following the same direction.—pp. 21, 24.

"From this eccentric march, are derived all the laws of organization; every organ will be primitively double; its parts, at first isolated, will advance to meet each other, and will unite at the centre of the animal, to constitute those organs called single, because they are considered as already formed.

"All these single and symmetrical organs will be on the median line. The nearer they approach to the centre of the animal, the more the traces of their formation will be effaced; the more remote they are from it, the more readily shall we discover the indices of their primitive formation.

"I have called *law of symmetry* the principle of the double development of the organs.

"I have named *law of conjunction* the principle of their union. From these two laws are derived the entire formation of the organs."—p. 25.

The application of these laws is next made to the principal organic systems, beginning with the osseous. We have not time now to follow M. SERRES in these details, which seem, however, to bear him out in his positions. The ossification of all the parts of the skeleton is eccentric. In the trunk, the ribs are first formed, then the lateral parts of the vertebræ, and finally their bodies.

In the pelvis, the osseous development begins at the ilium, then comes the ischium, and finally the pubis. In the cranium, the progress of ossification is similar. From this eccentric march, necessarily follows the double development of all the single or solitary pieces of the skeleton, forming its centre. Hence there are primitively two half spinal canals, and two ossa sacra. The os hyoides, the lower jaw, the sternum, which most usually are single pieces, are, without exception, double in the embryos of all the vertebral class.

The formation of the articular cavities, that of the foramina, and of the osseous canals, are the result of the law of conjunction, or the interlocking of the primitive pieces of which the bones are composed.

The correctness of this view has been admitted, and new facts in its corroboration have been adduced by Cuvier, Geoffroy St. Hilaire and Oken. Dutrochet has shown its application to the class of reptiles; and Latreilie and Audouin have verified it; the former in regard to the solid parts of the crustaceræ, the latter in reference to the skeleton of insects.

Other organic systems are, in their formation, obedient to the same law. The intestinal canal is a canal of conjunction, resulting from the double cementing, anterior and posterior of the two laminæ, of which it primarily consisted. The same is the case with the aorta, the trachea arteria, the larynx, the œsophagus, and the genito-urinary organs.

The formation of the muscular system is explained entirely by the application of these fundamental laws. Passing from the most simple muscles, to the most complex, we arrive at the heart, which is to the muscular system what the cranium is to the osseous, and the encephalon to the nervous. We may see the heart, at first so simple, arrive by a series of evolutions, to the complicated structure which it offers in the mammiferæ, and in birds. M. Serres describes minutely all these successive changes, which we must omit, in order to arrive at the explanations which he furnishes us of the structure and growth of the nervous system.

"If, says he, you observe the tender embryos of animals, you will find that the lateral nerves of the trunk, the lateral ones of the head and pelvis, are those first formed; that they exist independently of the spinal marrow, or of the brain. These nerves have attained their

full growth when the cerebro-spinal axis (brain and spinal marrow) is yet liquid, and when it has not even assumed its primitive forms. You will find the nerves without communication with the encephalon, or with the spinal marrow. The nervous system then, is developed from the circumférence to the centre, and not as was supposed, from the centre to the circumference."—p. 36.

This is the grand position, to the enforcement and illustration of which, M. SERRES devotes his work. The task was one of no common labour, and its fulfilment is, to all appearances, in a style of successful execution, corresponding with the expectations raised of its intrinsic value, and application to other branches of medicine.

In leading us to the conclusion that the nerves originate in, or are formed simultaneously with the other parts of the organs, and that their insertion or place of conjunction is at the cerebro-spinal axis, M. SERRES has placed us under the greatest obligations, by furnishing us with a series of arguments supported by most numerous observations on all animals. But we are of opinion, that, without materially diminishing his own fame, he might have distinctly alluded to what his countryman, the great BICHAT, says on this subject, in the chapter on the Nervous System of Animal Life.—Art. I.* "The word origin ought only to be understood," says this physiologist, "as relatively to the anatomical arrangement. In fact, in one respect, the nerves are formed at the same time with the brain; *they are rather the organs of communication with that viscus, than its real prolongations.* In another view, if we attend to the functions of one part of the nervous system, that which relates to sensations, we shall find *that the termination is at the brain, and the origin at the exterior.* Do we not say, that the nerves go to such and such parts, that the arteries are directed round, &c. These are so many metaphorical expressions, the meaning of which is rectified by the slightest reflection."

Mr. ABERNETHY borrowing, we presume, this idea from BICHAT, gives it greater extension and clearness, when he says—"It is no unfrequent occurrence for malformed children to be born without a brain, yet with a perfect nervous system. The most rational idea, therefore, we can entertain on the present subject, is, that *the nerves are formed in the parts where we find them, and that*

* Anatomie General. T. I. p. 147.—Paris, 1818.

they are connected to those parts of the organs from which we are accustomed to say they proceed."*

Magendie, in his 'Summary of Physiology,' tells us expressly, "It is evident enough, that the brain is not formed by the union of the nerves, and it is equally certain that the nerves do not arise from the brain. By these expressions we merely mean to describe, metaphorically, the disposition of the two extremities of each nerve."—p. 88. Balt. Edit.

Spurzheim, in his lectures on the structure and functions of the nervous system, used, we well remember, to deprecate the idea of considering the brain as giving origin to the nerves, or to the spinal marrow; and to assure us that there was no proportion between these three divisions. It certainly would not, he added, be correct language to say that the veins arise from the heart, or that the branches of a tree spring from the root.

These quotations and remarks are not made in a spirit of querulous remonstrance against M. Serres' silence; but are intended to throw light on the history of inquiries into a very important part of animal structure.

The spinal marrow follows the same law as the nerves.

"Open young embryos, (says our author) you will constantly find that the spinal marrow is at first composed of two small channels, right and left, entirely separate from each other. In a more advanced period, you will discover these two chords uniting before, on the median line, by an ingraining or interlocking similar to that of the osseous system. The two chords then form a long channel, open behind in its whole extent. At a later period, again, you will see these two chords ingrained behind as had been done before, and this long channel converted into a tube occupying the centre of this axis."—p. 39, 40.

In some animals, the medulla spinalis is destitute of a canal, but still the same law of formation presides here as in other cases; and if we examine attentively, we shall find eccentric layers successively formed in the interior of the canal, and deposited from without inwards until it is entirely obliterated.

Extending our views to the contents of the cranium, we find the peduncles or crura of the cerebrum double and separate, like the primitive chords of the spinal marrow, unite before by a junction

* Anatomical Lectures delivered before the Royal College of Surgeons.

similar to that of the latter. We next discover a large channel, circumscribed by the sides of these two chords. (p. 41.) The prominences, which surmount them above, are likewise symmetrical. Backwards, we see the optic beds—forwards, the *corpora striata;* the enlargements on one side are precisely the repetition of those of the opposite side.

It is the same with the medulla oblongata, the optic lobes or the tubercula quadrigemina—they are primitively formed of a double lateral chord.

The cerebellum is in all embryos, at first, composed of two lateral plates, right and left.

The olfactory lobules are likewise double in all the classes, and at first isolated from each other, whatever their smallness or size.

There are constantly, also, two cerebral hemispheres; these are separate in the bony fishes, united in the cartilaginous ones, but divided in the median line by a deep fissure. In reptiles, birds, and mammiferæ, they are united together by transversal bands, known usually by the name of commissures.

All these commissures, single organs in perfect animals, are primitively double in embryos.

It is thus with the commissure of the optic lobes or *tubercula quadrigemina*, so developed in birds; with that of the posterior prominences of peduncles of the cerebrum; with the anterior middle ones of the optic beds, (thalami nerv. optic.)

The pyramidal bodies of the medulla oblongata, which, in the mammiferæ, serve as a commissure to a part of the cerebellum, were at first double.

Constantly, also, in the same class, we observe a double *pons varolii.*

The *corpus callosum*, which is the largest of all the commissures, participates in the common law of development, since, in all the embryos of the mammiferæ, each hemisphere has primitively its half *corpus callosum* separated from the corresponding half of the opposite hemisphere.

The vault (*fornix,*) the development of which is so complicated, is subjected rigorously to the general principle of formation, in its being double in all the embryos of the superior class.

It is the same with the partition designated by the title of *sep-*

tum lucidum. However thin may be this part, it is always formed of two plates, right and left.

This partition is to the nervous system, what the vomer, and the perpendicular plate of the ethmoid, are to the osseus.—p. 534, 6.

The attentive reader will be struck with the general sameness of result in our author's observations, and those of GALL and SPURZHEIM, in so far as regards the admission of the duplicity and symmetry of all the parts of the brain on each side the median line. While M. SERRES, however, insists on the growth of these parts always advancing from the circumference to the centre, the anatomists just mentioned, consider this holds good only in reference to one portion or the converging fibres, which, meeting from opposite sides of the brain, form, by their junction, the commissures, above described. So well satisfied were they of the distinct and separate formation of the two halves of the encephalic commissures, that they express a doubt whether the laminæ from opposite sides really form a union by being lost in each other: and suggest the possibility of their approximating in the form of a seam. They express, moreover, their opinion of the use of these commissures as being intended to combine in function the opposite hemispheres of the brain and organs of animal life. "We, say they, look upon all the nerves, not only those of organic, but also those of animal life, as so many independent systems; there are, however, many communications between them."* They then go on to speak of the returning or converging fibres of the nervous system and the commissures.

We the more willingly supply the omission of our author, in respect to the anatomical views and discoveries of Doctors GALL and SPURZHEIM, because, by his frequent allusion to, and mention of them, he evidently acknowledges the weight which their opinions have obtained on the continent, in all points connected with the structure and formation of the brain and nervous system; and, also, because he seems particularly desirous of subverting their hard earned authority.

With this view, and as conformable to his doctrine of eccentric development, he denies the pre-existence of the gray or cineri-

* *Recherches sur le systeme nerveux en general, et sur celui du Cerveau en particulier.*—Sect. VII, as translated in Combe's Phrenology.

tious part, to the white or fibrous. He grounds this belief on his observations of the formation of the nerves in the organs, prior to their junction with the brain; of the intervertebral ganglia being anterior in their creation to the spinal marrow; and of this axis itself being formed from the circumference to the centre. The ganglia, which abound in gray matter, and which GALL and SPURZHEIM considered as matrices of the nerves, cannot, M. SERRES contends, possess this office; since the latter are formed before the former. Finally, the gray or cineritious matter cannot be the organ of nutrition for the white matter; as this latter is constantly the first formed, and in certain animals, as in the genus asteriæ, the nervous system is, according to CUVIER, composed entirely of white matter.

Let us now see how these positions, laid down so frankly and imposingly, are sustained by other investigators into the minute structure of the nervous system. And first, then, we know that in an embryo of six weeks, the human brain is represented by a sac, formed by a soft and vesicular membrane, the pia mater, and continuous with a canal, which represents the spinal marrow—both containing a fluid nearly transparent. In the second month, the substance of the brain and chord, examined with a suitable magnifier, appears to possess no fibrous structure, but to consist of extremely minute globules. In the third month, we find the corpora restiforma and a thin cerebellum: the pedunculi, the optic beds, and corpora striata, are more sensible. In these, it will be remembered that the gray matter predominates; while the tuber annulare, corpus callosum, fornix, and cornu ammoni, (white or fibrous matter,) are not yet visible.* So far, then, we have no evidence of the prior formation of the white substance, nor, consequently, of the accuracy of M. SERRES' assertion.

The asteriæ have been examined by GALL, BURDACH, MERKEL, and KONRAD; and all these anatomists have, contrary to the observation of CUVIER, found as many ganglia, or collections of gray matter, in the nervous rings, as there were rays or grand ramifications from this ring. In fact, MERKEL joins BURDACH, in admitting as a law, that wherever there is a nervous system, there exists gray matter.

* Tiédemann.

It is not, perhaps, with much propriety, that M. SERRES cites CUVIER, as the one arresting the course of GALL and SPURZHEIM's hypothesis of the prior formation of the gray or non-fibrous substance, by his report on the subject to the Academy of Sciences. The language of that report, prepared by CUVIER and his colleagues, is, "that the gray substance is the origin and aliment of all the nervous fibres, and that it is by its means that they are reinforced and multiplied."

Conceding even that the development of the nerves is prior to that of the brain and spinal marrow, as it is certainly at times accomplished where these two organs are wanting, the hypothesis already alluded to is adequate to an explanation of the fact. The surfaces, where the organic extremities of the nerves are spread out, are uniformly of a non-fibrous character, or similar to the gray nervous matter. VICQ-D'AZYR had long ago remarked the analogy between the mucous substance covering the nervous expansion under the skin, and the cortical or gray portion of the brain. VAN DER HAAR asks, if we cannot, or must not, even infer, that there is brain or cerebral substance in the smallest nervous threads: and FOUQUET and BORDEU, CARUS and SPRENGEL, compare the gray substance to the mucous tissue of the skin—as has been done by GALL and SPURZHEIM.

If, then, this mucous tissue be similar to the pulpy and non-fibrous or gray substance of the brain, we can see in it a matrix or origin for the nerves, even admitting M. SERRES' eccentric development of the nervous system; in the same way, as we have said, that the converging or white fibres of the brain sprang from the gray or cortical surface of that organ, and met at the median line, to form the commissures already mentioned.

The assertion of our author, that the medullary fasciculi of the pons varolii are developed before the gray matter, and that the peduncles of the pineal gland are constantly formed before the gland itself, is not in either case substantiated. TIEDEMANN and GALL are opposed to him—the former in reference to the pineal gland, which is not preceded by the peduncles; the latter assuring us, that in the pons varolii and medulla oblongata, the gray matter is abundant before any white or fibrous is perceptible.

M. SERRES, in farther proof, as he thinks, of there being no necessary connexion between the gray and the white or fibrous sub-

stance, says, that in the mammiferæ, and in birds, the entire layer of cineritious matter may be removed from the spinal marrow without at all affecting the white substance; and that, in the mammiferæ, the portions of gray matter of the corpora striata may likewise be removed, without the fibrous (white) matter presenting any laceration or alteration. We apprehend, that general experience is here opposed to our author. What anatomist is not aware of the great precautions required to preserve the adhesion and direct communication of the third, fourth, fifth, sixth, eighth, &c. pairs? If we remove, ever so delicately, one of the strongest nerves of the spinal marrow, there always remains a small bulb of gray substance adherent to the central extremity of the nerve. In incising the gray substance of the ventricles, or of the *corpora striata*, we see an infinity of small white filaments intimately mixed with the gray substance. The same is found in attempting to remove the external or cortical gray matter from the hemispheres: the blood vessels of the pia mater traverse this substance, and follow the fibre into the subjacent white; so that, when efforts are made to separate the layers, these vessels are necessarily torn.

In regard to the swellings at the part where the nerves are given out from, or, as M. SERRES would say, inserted into the spinal marrow, he is at issue with GALL, in denying that there is any such regular enlargement. Certain, it is, however, that no person prior to GALL and SPURZHEIM, had remarked the enlargements of the spinal marrow, at the parts where the nerves for the upper and lower extremities are given out—an appearance now admitted by anatomists.

In illustration of his opinion of the white being independent of the gray matter, our author gives us the result of his experience in organic alterations of the brain; and mentions his having seen evident cicatrices of the centrum ovale, which had been torn or lacerated in apoplexies. As all the nervous filaments of the brain are accompanied by blood vessels, it is not, GALL thinks, difficult to account for this fact, without admitting M. SERRES' opinions.

The next question discussed by our author, is, how the primitive homogenity of the elements of the encephalon is lost, and how each of them attains to the permanent forms which distinguish each class. To arrive at a satisfactory solution of these

hitherto unexplained problems, he follows, step by step, each of the metamorphoses in every class, the better to appreciate the influence which the evolutions of one element exercised upon all the others; and thus traverse the fugitive forms of the encephalon, to obtain an explanation of its permanent ones.

Our limits will only allow us to present some of the results of these investigations. One of the most important of them is, that all the various deformities in organized beings never pass the limits of their class to assume the forms of a *superior* one. Never does a fish rise to the encephalic forms of a reptile, nor the latter attain to that of a bird, or a bird to that of a mammifera.

The parts united by the laws of conjunction, give rise to all the cavities of the encephalon,—the ventricles and the holes, improperly called anus and valva, in the mammiferæ.

The formation of these cavities and holes is, then, under the dependence of the same laws as that of the intestinal cavities; the aorta, the cavities of the heart, and all the foramina and cavities of the osseous system.

Respecting the alleged homogeneousness or unity of the nervous system, and its elements, M. SERRES, with much plausibility, assures us, that this is an invariable fact, attested by the minute examination of the brains of the four classes, and a comparison of their adult with their embryo development.

"Let us," says he, "go far back in the uterine life of the mammiferæ; you will perceive, at first, the cerebral hemispheres rolled, as in fishes, into two vesicles, separated from each other. After a time, you will see them affect the configuration of the cerebral hemispheres of reptiles; at a later period, again, they will exhibit to you the appearance of those of birds; and, finally, it is only at the epoch of their birth, and sometimes later, that they acquire the permanent forms which the adult presents in the mammiferæ."

To this analytical demonstration, M. SERRES joins the synthetical, by exhibiting, as in the instance of a monkey at birth, (the brain of which has all the parts distinguishing the mammiferous from the other vertebral animals,) the gradual loss of parts in ascending through the period of utero gestation, and the representation thereby of the brains of the three inferior classes.

"Thus, in rising in the animal scale from fish to the monkies, you see the encephalon gradually become complex, as in descending from

the adult mammiferæ to their different epochs of embryo formation, you will perceive this organ successively decomposed. You will arrive by these two means at the same result—the unity of their formation and composition."

Admitting the correctness of the observations, are we at liberty to draw this inference of the unity of the nervous system in formation and composition? Does not M. SERRES sport too much with the word element? And may we not cite his own language, as at variance with his hypothesis? "In ascending," says he, "from the inferior to the superior classes, we see this organ, so simple at first, gradually rise in reptiles and birds to that admirable organization, such as we know it in the mammiferæ, and to that still more admirable structure which it offers in man." The elements being the same, the identity, according to our author, can only be changed by the form and position, each element undergoing in each class new transformation. The totality of the brain is, of course, so modified, as to be no longer recognisable in comparing one class with another.

Though we do not agree with some writers, in regarding as useless all these minute examinations of the brain of the lower animals, or as unproductive the attempts to determine the various parts of which this organ consists, yet we must avow, that to dwell on these points, and to attempt to reduce all the parts of the nervous system to homogeneity, and disregard the obvious differences of form, development, and complexity, and neglect the study of function as associated with certain forms, is, in our opinion, like the labours of the metaphysicians, in explaining causation, or attempting to reduce all the faculties of the mind to mere sensation.

The permanent forms of the brain in the four classes of vertebral animals, are represented by our author to be as follows:

"In *Fishes*, the optic lobes are the predominant element; the cerebral lobes are atrophied; the olfactory lobule is very considerable; the cerebellum is moderately developed.

"In *Reptiles*, the optic lobes lose their influence; the cerebellum is almost extinct; the cerebral hemispheres are comparatively much developed to what they are in fishes; the olfactory lobule is in its turn atrophied.

"In *Birds*, the cerebellum becomes the dominant part; the optic

lobules are enfeebled; the cerebral hemispheres are enlarged; the olfactory lobules are almost extinct.

"In *Mammiferæ*, the cerebral hemispheres become in their turn the dominant organs; the cerebellum continues its transversal development; the corpora quadrigemina (optic lobes) are reduced to their minimum of existence; the olfactory lobule undergoes great changes. Much developed in those animals the hemispheres of which are small, it diminishes, and almost entirely disappears, as we rise from the ruminating and carnivorous to the monkey and man."—pp. 80, 81.

What our author calls optic lobes, are the corpora quadrigemina of the brain of mammiferous animals and birds. In fishes and reptiles, they are the two cerebral lobes immediately anterior to the triangular body, corresponding to the cerebellum of the higher classes.

The propriety of the term must be admitted, when we learn, that "the tubercula quadrigemina are developed in all the classes, and in all the families of the same class, in the direct ratio of the volume of the optic nerves and the eyes."* Gall and Spurzheim had, many years ago, pointed out the connexion between these bodies and the optic nerves, and traced the origin of the latter to them.

The olfactory lobule is the name given to that prominent part or bulb, in some animals, of the lower portion of the anterior cerebral lobes, to which the olfactory nerve is traced.

"In general, the more a part is developed, the more do we see multiplied the bands, radiations, and plexuses of white matter. The more it is atrophied, the more do we find the white matter diminished, whilst the gray matter augments."

It remains for us to learn the order in which the several parts of the cerebro-spinal axis appear, and their relative proportion to one another.

M. Serres admits the general correctness of the opinion of Soemmering and Cuvier, that the spinal chord and encephalon are developed in an inverse ratio to each other. But he does not think that the entire brain follows this rule; some parts of it being in a

* Rapport fait a l' Académie de Science, en Mars, 1821, par M. le Baron Cuvier, secretaire perpetuel. This report is included in the work before us.

direct, others in an inverse ratio, in point of size, to the spinal marrow.

The spinal chord always precedes the brain in formation. Of this latter, the corpora quadrigemina are the parts first formed. Next appears the cerebellum; the median part of which (*processus vermicularis superior*) is first seen. In the cerebrum, the crura or pedunculi, the optic beds (thalami nerv. optic.,) corpora striata become apparent in the order mentioned: then follows the successive development of the hemispheres, at first the anterior lobes, then the middle and posterior ones. Hence, we see that, however we may admit the eccentric development of the brain, in reference to the formation of each part composing the two halves of it, still, if we regard it as a whole, we find its central parts first formed. Nor can we well understand the eccentric growth of the hemispheres, by such language as the following: "The fibrous (white) bands, after having traversed precedingly the optic bed and corpora striata, are directed forwards, and form the hemispheres by their expansion."—p. 149.

What says GALL and SPURZHEIM.—"All the fasciculi of the external border of the corpora striata, and the optic beds, are then directed in all senses, that is to say, towards the sides, backwards and upwards, in enlarging themselves always more towards the external borders of the great cavities, (ventricles;) it is there that they appear to form a tissue, whence they are disengaged in many filaments to form duplicatures under the name of convolutions."*—(*Recherches, &c.*)

The corpora quadrigemina and spinal marrow are, according to our author, rigorously developed in a direct ratio to each other, and to the median lobe (*processus vermicularis superior,*) of the cerebellum. But the lobes of this last are in direct proportion in size to that of the pons varolii, or a tuber annulare, as taught by GALL and SPURZHEIM, though this fact is not mentioned any more than the correspondences to be afterwards noticed, either by M. SERRES or CUVIER in his *Rapport, &c.* In reptiles, birds, the mammiferæ, and in man, the development of the optic beds, and the corpora striata, is in direct ratio with that of the cerebral lobes. This fact was also long ago pointed out by GALL and SPURZHEIM. They did

* Combe's Essays on Phrenology. Am. Edit. p. 164.

not, indeed, speak of the size of these parts being in an inverse proportion to the corpora quadrigemina, as we are told by M. Serres. He adds that the corpus callosum is in volume proportionate to the optic beds, *corpora striata*, and the cerebral lobes, a circumstance admitted by Gall and Spurzheim.

The lobes of the cerebellum and cerebrum being in direct ratio to each other, and of course in an inverse proportion to the spinal marrow, and corpora quadrigemina, rests on our author's authority, by which also we learn that "the nerves of the senses are developed in a direct ratio to the spinal marrow, the median lobe of the cerebellum, the tubercula quadrigemina, the optic lobes, the hippocampus, and the olfactory lobe."

The pons varolii and corpu scallosum, are characteristic of the brain of the mammiferæ, and are not met with in the three inferior classes of animals. The German anatomists, just mentioned, had pointed out, and explained the reason of the absence of the pons in the amphibii, fishes and birds. In the three lower classes of vertebral animals, the tubercula quadrigemina are, according to M. Serres, hollow, and have an internal ventricle, while the cerebral lobes are solid. In the mammiferæ and, in man, on the contrary, these bodies are solid, and the cerebral lobes hollowed out into large ventricles. These lobes have also convolutions, which are wanting in the three inferior classes.—"The ventricular cavities of the cerebral lobes distinguish exclusively the mammiferæ and man." "The decussation of the pyramidal bands is visible in the human embryo of the eighth week."

"In birds there are at most but two bands, the interlacing of which is evident."

In reptiles and fishes their is no decussation.—Rapport, &c. par Cuvier.—p. 26.

M. Serres points out the strict dependance of the brain and nervous system generally, on the arterial—the latter of which in the embryo state is pre-existent to the former. The spinal marrow is formed under the influence of the intercostal arteries: the cerebellum by the intermedium of the vertebral ones, and the brain proper or cerebrum by the carotids. Monstrosities of the nervous system are always dependant on prior irregularities, or deficiences of the arteries. Hence the following law:—"The conditions of existence of the various parts of the encephalon in

vertebral animals, are rigorously subjected to the conditions of existence of the encephalic sanguiferous system."

When M. SERRES tells us that "we shall find that the faculties may be transported from one element which is governed, to a neighbouring element which becomes governor, we fear that he exposes himself to being misunderstood, or to the charge of advancing an unphilosophical proposition. We can readily admit, that in fishes the optic lobes, and in birds the cerebellum are predominant organs, that the cerebral lobes in the mammiferæ may be atrophied, and the being reduced to the scale of the reptiles, in respect to cerebral function; but in all these cases we find no transfer of faculty. The diminution or atrophy of the cerebral lobes, for example, may be accompanied by a predominance of the corpora quadrigemina or optic lobes, but in no case do we find the functions or faculties of the former, peculiar to the animal in its mere perfect state of organization, evidenced by the latter bodies. Yet this ought to be the case, if M. SERRES' idea of perfect homogeneity of the nervous system, and the transfer of faculties from one element to another, were correct. We fear that our author has been hurried into this sweeping inference in consequence of some curious observations on the nerves—curious, indeed, but not in number or certainty sufficient to justify our framing a law therefrom. In speaking of the nerves of vision, he tell us that

"The optic nerve may be wanting in certain animals without vision being lost. If the eye exists, if it be placed in communication with the brain by the medium of a nerve, the impression of external objects may be perceived by the animal; the fundamental condition for vision is fulfilled. The secondary conditions only are changed. In fact, if the optic nerve be wanting, if another nerve terminate at the bottom of the globe of the eye, the action of vision will be transmitted along this nerve, as it is in the ordinary state along the optic nerve." —p. 305.

This novel assertion would seem to be substantiated by the evidence which our author adduces in the instances of the mole, the mole-rat of the Cape (*Mus Capensis*,) the fœtid shrew (*sorex araneus*,) the chrysochloris of the Cape (*Talpa Asiatica*,) the zocor (*Mus Aspalax*,) the zemni (*Mus Typhlus*,) in which no optic nerve could be seen, but to the eyes of which a branch of the fifth pair

was distributed, and served to give them the limited powers of vision which these animals are admitted to possess. In some of the cetaceous animals, he found the olfactory nerve wanting, but its function was supplied, likewise, by a branch of the fifth pair. (Chap. III. *Du Nerf Trijumeau.*) These observations joined to the opinion of SCARPA, CARUS, JACOBSON and TREVIRANUS, that "the sense of hearing, may, in part, be confided to the fifth pair," induce M. SERRES to yield his assent to the correctness of the general law laid down by CUVIER, "that the difference in the functions of the nerves depends rather on the different organization of the parts to which they are distributed* than on their own nature;" and to admit with DUMERIL, that there may be a transfer of a sense from one nerve to another.

We have said above, that the observations in support of such a law are not of sufficient number or certainty. To corroborate this assertion, we shall cite the direct counter testimony of GALL, who examined the organ of vision of the mole, and found the optic nerve, extremely small indeed, as in all the other species of rats, mice, and smaller mammiferæ. M. BAILLY has since repeated the dissection with similar results, and showed it to CUVIER and GEOFFROY St. HILAIRE. Is it too hasty an inference to suppose inaccuracy of examination in the other animals mentioned, in which the optic nerve is alleged to be wanting?†

We have now concluded the first part of our task, in stating, with all the brevity consistent with the magnitude of the subject, and the necessity of doing him justice in his own words, the ideas and deductions of M. SERRES, as contained in his work on the "Comparative Anatomy of the Brain, in the Four Classes of Vertebral Animals, applied to the Physiology and Pathology of the Nervous System."

To give an opinion conclusively of the value or demerit of the several positions of our author, is what we ought not to attempt, before we array all his minute observations and experiments on the formation of the encephalon and spinal marrow, in the embryos and fœtal state of the varieties in the four classes of vertebral animals, which constitute the first part of his work; and next set

* Or, according to M. SERRES, in which they are formed.

† Sur les functions du CERVEAU, &c. par F. I. Gall, T. VI. p. 309.

forth the similar course of inquiry which he pursued in determining the origin and progressive growth of the nerves, especially those commonly called cerebral, and the great sympathetic. This is the second part of his subject. On a future occasion, we hope to present our readers with many of these details, not less interesting to the physiologist than the anatomist, and we shall endeavour, at the same time, to compare them with the inquiries of the celebrated Tiedemann in the same extensive field.

We shall close our notices of the nervous system at this time by a brief sketch of the observations of Mr. Bell. Were we inclined to cavil, we might object to the title of this gentleman's work. "An exposition of the natural system of the nerves of the human body," as conveying, by strong implication, a censure on all who have preceded him, and leading us to infer that others have only exhibited to us the artificial system of the nerves. But we prefer giving his views and discoveries to carping at his style, or showing an ill-natured pleasure, in pointing out obscurities of expression or diffuseness of language—charges, to which, we must confess, he is somewhat amenable.

The author's reason for the present publication, in place of continuing "to give distinct dissertations, under the auspices of the Royal Society, and afterwards to publish engravings of the nervous system," is, "that a systematic attempt has been made not only to anticipate the future subjects, but to assume whatever merit may belong to these discussions." While we, in common with the members of the profession at large, return our thanks to Mr. Bell, for this course, we cannot, at the same time, but wish that he had not thought it necessary to republish the papers read before the Royal Society, but had rather determined on presenting us in a more clear and succinct manner his views on the nervous system.

However much the Royal Society may exact an adherence to logical induction and scientific experiments, its transactions do not assuredly furnish a model of lucidus ordo or terseness of style.

The present work of Mr. Bell is a small one, and yet it might, without any sacrifice of fact or argument, be considerably reduced in size, had he acted on the plan we just now suggested. Let us, however, be content to cull something from his rich store.

"In the course of these papers, I have shown, says our author, that

the great error which has misled anatomists in their conceptions concerning the nerves, has consisted in following, though with some license, the old hypothesis that the nerves receive their influeuce from the brain, and confer it on remote parts of the body, and that they are endowed with the same powers."—p. 5.

"In the view which I have taken of the nerves of the human body, there are, besides the nerves of vision, smell and hearing, four systems combined into a whole. Nerves entirely different in function extend through the frame—those of sensation, those of voluntary motion, those of respiratory motion, and lastly, nerves, which, from their being deficient in the qualities that distinguish the three others, seem to unite the body into a whole, in the performance of the functions of nutrition, growth, and decay, and whatever is directly necessary to animal existence.

"These nerves are sometimes separate, sometimes bound together, but they do not, in any case, interfere with, or partake of, each other's influence."

Then follows the plate of a section of a nerve consisting of distinct filaments. In examining a nerve, we may find one filament for the purpose of muscular sensation, another for muscular motion, a third for combining the muscles in the act of respiration.

"The key to the system will be found in the simple proposition, that each filament or track of nervous matter has its peculiar endowment, independently of the others which are bound up along with it; and that it continues to have the same endowment through its whole length."

We regret that our author should have thought himself obliged to make a new nomenclature for certain appearances and combinations of nervous matter. They are thus defined:

"Where certain whitish streaks of nervous matter are discoverable in the substance of the brain, we may still use the term *Tractus* as being already an anatomical term.

"Where, in any part, the line of a nerve is merely discoverable by its colour, or the direction of its texture, but when it is raised, and exhibits an external convexity in form of a chord, the term *Column* or *Rod* may be used.

"Where they emerge in distinct threads, *Funiculi* had seemed to me a proper term; and where these *Funiculi* are projected in combination, I use the word *Fascis*. Although we must keep the term *Nerve*, yet it is, as we may say, an abused term."—p. 7.

"If we were successfully to trace a nervous cord, (we shall suppose from a muscle of the fore-arm,) it would be found a simple fila-

ment, thread or funiculus. We should then trace it into a compound nerve; perhaps the ulnar nerve, which we call compound, because there are in it filaments of motion and filaments of sensation bound together. At the root of the axillary nerve we should trace it into the composition of a *fascis*, where it forms the anterior root of a spinal nerve. Being further traced, it would merge in the anterior column of the spinal marrow, and traced into the case of the brain, it might be followed as a *tractus*—a streak of matter distinguishable from the surrounding substance, until it was seen to disperse and lose itself in the cineritious matter of the cerebrum."—p. 8.

The author has shown in the above paragraph, that one at least of his terms might be dispensed with, and filament retained in place of his *funiculus*.

It is, he informs us, the chief purpose of the papers which are here republished, to explain the cause of the seeming intricacy of the nerves of the face, neck and thorax. Some degree of irregularity, he adds, must arise in the distribution of nerves, from their being compound ones, "but the principal cause is the necessity of arranging and combining a great many muscles in their different offices. Wherever we trace nerves of motion we find that, before entering the muscles, they interchange branches, and form an intricate mass of nerves, or what is termed a plexus." "From the fin of a fish to the arm of a man the plexus increases in complexity in proportion to the variety or extent of motions to be performed in the extremity."

Mr. Bell begins his "description of the system with that of the spinal marrow," which, he tells us, is peculiar to vertebral animals. The relationship between this nervous mass and the vertebræ forming the spine is not simply owing to to the protection afforded to the former by the latter, but consists likewise in the necessary continuation of the thorax into the spine for the motion of respiration, and the necessity of the spinal marrow to that form and distribution of the nervous system which is required for associating and combining the muscles of respiration.

"Different columns of nervous matter combine to form the spinal marrow. Each lateral portion of the spinal marrow consists of three tracks or columns, one for voluntary motion, one for sensation, and one for the act of respiration. So that the spinal marrow comprehends in all six rods, intimately bound together, but distinct in office; and the capital of this compound column is the *medulla oblongata*.

"These six columns of the spinal marrow are discoverable, on looking to the fore part of that body; but no doubt these grander columns contain within them subdivisions. Thus, if we lift up the medulla spinalis from the cerebellum, and look to it on the back part, we shall see numerous cords, the offices of which will one day be discovered."—p. 11.

This view of the constitution of the spinal marrow, led Mr. BELL to the discovery of the distinct functions performed by the several roots of the spinal nerves. He ascertained that

"The anterior column of each lateral division of the spinal marrow is for motion, the posterior column is for sensation, and the middle one is for respiration. The two former extend up into the brain, and are dispersed or lost in it; for their functions stand related to the sensorium; but the latter stops short in the medulla oblongata, being in function independent of reason, and capable of its office independent of the brain, or when separated from it.

"It is the introduction of the middle column of the three, viz: that for respiration, which constitutes the spinal marrow, as distinct from the long central nerve of the animals without vertebræ, and which is attended with the necessity for that form of the trunk which admits of the respiratory motions.

"*Of the Nerves which arise from the Spinal Marrow—Comparison with the Nerves of the Encephalon.*

"The spinal nerves are perfectly regular in origin and distribution, and are thirty on each side. Each nerve has two distinct series of roots, coming out in packets or fasces; one from the posterior column, and one from the anterior column of the spinal marrow."

The posterior come out with remarkable abruptness from the column, and their funiculi, converging towards the foramen of the sheath of the spinal marrow, form a ganglion. The anterior are formed of funiculi or filaments, which come out with more irregularity than the former mentioned ones.

Contrasted with this symmetrical arrangement is the very great irregularity of the nerves called cerebral or intra cranial.

Mr. BELL wished to ascertain whether the phenomena exhibited, on injuring the separate roots of the spinal nerves, corresponded with what was suggested by anatomy. His predominant feelings of humanity made him hesitate to experiment on a living animal, and, therefore, rendering a rabbit insensible by a blow behind the ear, he exposed the spinal marrow. On irritating the posterior roots of the nerve, no consequent motion could be per-

ceived in any part of the muscular frame, but on irritating the anterior roots of the nerve, at each touch of the forceps there was a corresponding motion of the muscles to which the nerve was distributed.*

The next step of inquiry for our author, 'was distinctly indicated.' If he pursued the track of the anterior column of the spinal marrow up into the brain, would he find the nerves which arise from it, to be muscular nerves.

In tracing the column upon the corpus pyramidale, he finds the origin of the ninth pair, which

"Has only one series of roots corresponding with the anterior roots of the spinal nerves, and that these roots come from the *tractus motorius*, and we cannot forget that this nerve is entirely devoted to the muscles of the tongue, that it is the motor of the tongue. Following up the corpus pyramidale, we find issuing from it the sixth nerve, a muscular nerve of the eye. Still following up the *tractus motorius* through the *pons varolii*, we come to the roots of the third nerve, the motor nerve of the eye. Thus all the nerves arising in one line, from the Crus Cerebri to the Cauda Equina, are muscular nerves."—pp. 17, 18.

"The next matter of inquiry was to ascertain how far the fifth nerve of the encephalon corresponded with the spinal nerves."

"Observing that there was a portion of the fifth nerve, which did not enter the ganglion of that nerve, and being assured of this fact by the concurring testimony of anatomists, I conceived that the fifth nerve was, in fact, the uppermost nerve of the spine, that is to say, the uppermost or most anterior of those nerves, which order the motion and bestow sensibility, in its extended sense, on the frame of the body."

* Mr. BELL, in more than one part of his work, complains of MAGENDIE's apparent desire to deprive him of the honour of this discovery, and hints at the cruelty of performing so many experiments on living animals, to determine that to which he was led by anatomical views. The facts seem to be, that Mr. BELL, as far back as 1809 or 1810, showed that the posterior roots of the spinal nerves might be cut without impeding motion; but this initial idea was not followed up, until MAGENDIE conclusively showed that the anterior nerves of the spinal marrow are nerves of motion, and the posterior ones are destined for sensation. A little less confidence in the all illuminating power of anatomy, or not quite such shrinking sensibility, on the part of Mr. BELL, might have carried him to the entire establishment of his present positions without the risk of interference of his vivisecting rival.

It is to the head what the spinal nerves are to the other parts of the body.

The symmetrical or spinal nerves having had their arrangement and function displayed, our author proceeds to the consideration of the remaining or *irregular nerves.*

"These are distinguished by a single fasciculus, or single root; that is, a root from one column. These are *simple* in their origin, *irregular* in their distribution, and deficient in that symmetry which characterizes the first class. They are superadded to the original class, and correspond to the number and complication of the superadded organs. Of these, there are the third, fourth, and sixth, to the eye; the seventh to the face; the ninth to the tongue; the *Glosso-Pharyngeal* to the pharynx; the *Nervus Vagus* to the larynx, heart, lungs, and stomach; the *Phrenic* to the diaphragm; the *Spinal Accessory* to the muscles of the shoulder; the *External Respiratory* to the outside of the chest."—p. 23.

These nerves, our author conceives to be agents of distinct powers, and to combine the muscles in subserviency to different functions.

He very properly, we think, in his first paper to the Royal Society, considers as contributing to respiration, the muscles of the face, neck, and shoulders, as well as those of the thorax and abdomen,—all which are alternately or conjointly called into play, in the common actions of coughing, sneezing, speaking, and singing.

The nerves of the face, are, first, the *trigeminus*, or the fifth pair, and that familiarly called the *portio dura* of the seventh; "but which, in this paper, will be called *the respiratory nerve of the face.*"

The fifth is the nerve of taste, and of the salivary glands, of the muscles of the jaw, and of common sensibility.

The portio dura, or respiratory nerve of the face, rising from the *medulla oblongata*, close to the *nodus cerebri*, and exactly where the *crus cerebelli* joins the *medulla oblongata*, passes into the internal auditory foramen, and is here embraced by the *portio mollis;* from, which, however, it separates, and is received into an appropriate canal of the temporal bone. This nerve has, by means of the Vidian nerve and *chorda tympani*, access to the muscles of the back of the palate and the *velum palati:* emerging through the stylo-mastoid foramen, it divides into many branches,—one going to the muscles of the outward ear, another to the muscles of the

throat. The principal nerve then passes through the parotid gland, and comes upon the face—spreading upwards to the temple, and downwards upon the side of the neck, forming a superficial plexus. The chief branches, however, go forward to the muscles of the forehead and eyelids; a branch called the superior facial is sent to the muscles of the cheek, and side of the mouth; while an inferior facial branch is given to the angle of the mouth, and the muscles which concentrate there.

By experiments on animals, it was conclusively ascertained, that a section of the branches of the fifth pair was followed by a loss of feeling in the part, without motion being impaired; while a section of the portio dura was attended by a loss of motion in the muscles of the face, including those of the mouth and nose, without sensation being injured.

"On cutting the respiratory nerve on one side of the face of a monkey, the very peculiar activity of his features on that side ceased altogether. The timid motions of his eyelids and eyebrows were lost, and he could not wink on that side; and his lips were drawn to the other side, like a paralytic drunkard, whenever he showed his teeth in rage."—p. 52.

Corroborative facts to this end are met with in the human face, when the trunk of the respiratory nerve has been injured by wounds, or tumours of the parotid gland. The inference to the surgeon, in performing operations on the face, is highly important. Nor can the physician fail to be aided in his diagnosis of paralysis, and determining whether it proceeds from the brain, or is a partial affection of the muscles of the face, "when, from a less alarming cause, they have lost the controlling influence of the respiratory nerve."

Our author gives cases of disease, in which this nerve has suffered, and been attended with the above enumerated symptoms.

"Thus it appears, that the portio dura of the seventh nerve is the principal muscular nerve of the face; that it supplies the muscles of the cheek, the lips, the nostrils, and the eyelids; that is, that it is the nerve which orders all those actions which are in the remotest connexion with the act of respiration."

The next paper is a continuation of the subject, by tracing the nerves which influence the motions of the trunk of the body, in respiration.

The offices of the thorax are first given; then the origin of the respiratory nerves; and the muscles of the trunk, which are brought in aid of the common respiratory muscles. These are the mastoid muscle, the trapezius, the serratus magnus, and the diaphragm. "The nerves which give rise to the extraordinary intricacy of this system on the side of the neck, are the spinal accessory nerve, the phrenic nerve, and the external thoracic nerve." The second of these, or spinal accessory, is called the superior respiratory nerve of the trunk, and is distributed, after giving off some minor branches to the mastoid and trapezius muscles. Even in complete hemiplegia, these muscles will act in respiration, in virtue of the respiratory nerve distributed to them.

The experiments performed by dividing the spinal marrow between the vertebræ of the back and those of the neck, and yet respiration still continuing with the diaphragm; and by dividing the phrenic nerve, the pneumo-gastric, or par vagum, and its recurrent and laryngeal branches, furnish us in our author's paper with no novel inferences.

The relations of the subject are presented by him, under the heads of pathology and expression. We must refer our readers curious for such information, to the work itself, which ought to be perused by all persons any way interested in the progress of anatomical and physiological science.

The two concluding papers of this volume, are "On the Motions of the Eye, in illustration of the uses of the Muscles and Nerves of the Orbit." In these the writer proposes to show, that

"We must distinguish the motions of the eye according to their objects or uses, whether for the direct purpose of vision, or for the preservation of the organ; that the eye undergoes a revolving motion not hitherto noticed; that it is subject to a state of rest and activity; and that the different conditions of the retina are accompanied by appropriate conditions of the surrounding muscles; that these muscles are distinguished into two natural classes; and that in sleep, faintness, and insensibility, the eye-ball is given up to the one, and in watchfulness, and the full exercise of the organ, it is given up to the influence of the other class of muscles: and, finally, that the consideration of these natural conditions of the eye, explains its changes, as symptomatic of disease, or as expressive of passion."

Mr. Bell concludes, by offering "a few words in favour of

anatomy, as better adapted for discovery than experiment." By which, we presume, he means us to understand, that anatomy is more favourable than experiment, for leading us to make discoveries.

"The whole history of medical literature proves, that no solid or permanent advantage is to be gained, either to medical or general science, by physiological experiments, unconnected with anatomy. To disregard the anatomy of the nervous system, or to take it in the gross; to make a new science *of life*, and, influenced by a false analogy, to call it a fluid; to attempt to direct it along a cord or wire, is to transgress all the rules of philosophical inquiry, and must be attended with the rapid decline of anatomical studies. They will be considered as imposing restraints on genius, or be rejected as useless; and with them, pathology, and all that is most necessary to medical science, will fall into disuse."

In assenting to the general justness of these remarks, we may, also, be allowed to hope confidently that Mr. BELL will not fail to set forth his favourite studies in the same strong and agreeable relief, on future occasions, as he has done in the work before us.

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ARTICLE XII.—*The Lectures of* Sir ASTLEY COOPER, Bart. F. R. S., *Surgeon to the King, &c. &c., on the Principles and Practice of Surgery. With additional Notes and Cases, by* FREDERICK TYRREL, Esq., *Surgeon to St. Thomas' Hospital, and to the London Ophthalmic Infirmary. Vol. I. pp.* 351. *8vo, London,* 1824.*

THE present is the first of a series of volumes, purporting to be a faithful report of the Lectures of the distinguished surgeon of the British metropolis, by his former pupil and friend, Mr. TYRREL. That the pretensions of the reporter are just, and that the profession should regard the present publication, written in the name of Sir A. COOPER, as containing a faithful account of his opinions, theoretical and practical, is fully confirmed by the subjoined note:

"DEAR SIR,—I have looked over the manuscript of my Lectures on surgery. It contains a faithful account of the principles of sur-

* This volume has been re-published at Boston, and we are happy to learn that the second volume has been received, and is now in press.

gery, which, for forty years, I have been endeavouring to learn; and of the practice, which, for thirty-two years, I have been in the habit of teaching, in that school which is proud to rank among its Lecturers on Surgery, the names of CHESELDEN, SHARP, WARNER, ELSE, and last, although not least, of my most able and judicious preceptor and predecessor, Mr. CLINE. I am your's, very truly.

"ASTLEY COOPER."

Such being the circumstances of the case, we must congratulate the profession on this valuable addition to the standard works on surgery. For many years has the author maintained a very prominent station among scientific surgeons; and his very extensive practice, private as well as public, has enabled him to examine surgical diseases under almost every aspect, and to test the numerous opinions, and modes of treatment, which have, at various times, been recommended. His own improvements and contributions have, also, been numerous, as is well known to the public, especially through the medium of his essays, in conjunction with Mr. TRAVERS, and his elaborate work on Dislocations and Fractures.

Hence, the *authority* of Sir ASTLEY has become of importance; and to know *his* opinion on points, however minute, which are still undecided, not only excites a laudable curiosity, but promises to be essentially useful to the successful and scientific pursuit of our profession.

The period has long since passed, when authority alone gave importance to opinions. The Medical Profession, in the United States especially, has been for many years truly independent. Its members have observed and thought for themselves. The principle has been adopted, that great names should merely insure a candid and patient investigation for their productions; but that these should eventually be received to no greater extent than rigid experience and unbiassed reason may determine. This principle is applicable to the work before us, in which there are several inaccuracies and faults, which a critical reviewer would be bound to notice; for us, however, it will be generally sufficient to introduce the subject to the reader's attention, and but rarely to animadvert on blemishes in a production truly excellent. It should, however, be remembered, that these are lectures for *students*, and not a systematic work composed for the profession. Such a

production is still a great desideratum in English and American Surgery, which presents no competition to the scientific, accurate, and extensive work of Baron Boyer.

This volume contains twelve lectures; the two first treat of Irritation and Inflammation; and as these form the foundation of all just principles in surgical science, it will be necessary to state our author's opinions somewhat in detail: we shall thus be prepared for following him through the rest of his labours with more advantage.

Our author introduces the subject of Irritation, by some general observations on the effect of stimuli on the human body, in health and disease, advocating the commonly received doctrines of sympathy. This property, the essential nature of which is unknown, is "natural," as exemplified in changes which are observable in the mammæ during gestation, or it is "diseased," following injuries or diseases; in the one case becoming the cause of *restoration*, in the other, of *destruction*. This state of the body is called *Irritation*, which is defined "*an altered action excited in the body by an unnatural impression;*" unnatural in kind, or in degree.

Irritation, existing in any part, sometimes produces only diseased *sensation;* thus, the irritation of a diseased hip causes a "sympathetic pain" in the knee: but very often "*morbid actions* are also excited in other parts, which are near and intimately associated, or in distant parts;" thus, inflammation of the testicle is produced by irritation of the urethra; retention of urine has often resulted from tying the femoral artery for popliteal aneurism.

Irritation is generally *propagated* through the medium of the *nerves*, either cerebral or ganglionic. The *course* of irritation is, in some instances, from the irritated part to the sentient extremity of the nerve; sometimes, from the point affected to the origin of the nerve; and occasionally, the sympathetic communication is through the brain. Our author gives one case from a Mr. Toulmin, of this last variety, in which a hemiplegia resulted from the irritation of a diseased tooth, and was cured in a short time by the removal of the cause. The reader will find another interesting and well marked case of this character in Hennen's Military Surgery.

Irritation of the nerves of the grand sympathetic, chiefly affects the stomach, and but slightly the other system of nerves. Thus,

obstructions of the intestines, from any cause, will excite nausea and vomiting, with a remarkable absence of cerebral sympathy; even in fatal cases, "patients are generally quite collected, until nearly the last moments of their existence." This is an important observation, as the practitioner has often been deceived by the natural condition of the mind, and of the cerebral functions generally, little suspecting the imminent danger of his patient, until too late to afford assistance.

Irritation is sometimes merely "local," as is seen in a diseased tooth causing abscess and ulceration of the gums. "General irritation" is manifested by the convulsions, paralysis, and fever, resulting from dentition, &c. "Slight injury to the stomach, although it does not occasion any sensible organic change, will sometimes destroy life." On examination after death, no mark of violence can be discovered. In a note it is asked, Does the blow affect the semilunar ganglion?

It might have been observed by our author, that accidents of this kind are not peculiar to the stomach. A blow over any of the vital organs will often produce death, without any solution of continuity, or disorganization of the part. General death ensues from the blow paralysing an organ essential to animal life. If the part injured be not essential to the existence of the animal, recovery is practicable. Thus, Boyer quotes* from De La Motte, the case of a boy, whose right hand remained for ten days in a state of asphyxia, in which the heat, sensibility, motion, the pulsation of the arteries, indeed, all the phenomena of life, ceased, in consequence of a blow on the outside of the fore-arm. It gradually recovered its powers. Hence, we may conclude, that even when rupture does take place, the great danger of contusions results from this irritation, or impression on the nervous system, and not from the solution of continuity.†

Constitutional irritation is aggravated by a variety of causes; as, the importance of the injured part, the extent and kind of the injury, nature of the tissue or organ; and especially, by the state of the patient's constitution; as, depending on age, habits, climate, &c. Thus, convulsions and death have followed surgical operations on infants: hence, these operations should be postponed, if possible,

* Tome i. p. 105.

† Vide Observations on concussion and compression of the brain.

until they are two years old, when their restorative powers are stronger. In old age, there is little irritability; but, at the same time, the powers of restoration are diminished. Many of these irritable constitutions suffer immensely from even trifling local irritation; a small splinter in the foot often induces convulsions or tetanus; a moderate local inflammation will cause severe irritative fever and death.

In illustrating these valuable observations, our author notices the bad consequences resulting from wounds received in dissecting animal bodies, which, he observes, may possibly arise, in some cases, from the absorption of morbid matter, but, very generally, from an irritable state of the constitution, acquired by a long attendance in hospitals or anatomical rooms. Hence students seldom suffer until late in the season. Mr. TYRREL adds his testimony also in favour of irritation, denying the absorption of morbid matters.

Irritation destroys life in one of three ways. 1st, by its *continuance*, wearing out the system; in these cases usually inducing the symptoms of irritative or hectic fever. 2nd, When more severe, by *occasioning excess of action*, and 3d, when most severe, by the *great shock on the nervous system*, causing death, without reaction. Dissection affords little explanation of the cause of death in such cases; sometimes, in death from burns, the vessels of the brain or spinal marrow are found turgid, when from dentition, a serous effusion is occasionly seen. "In an adult, dying from irritation, we have several times seen patches of cartilage and bone on the pia mater of the spinal marrow."

The *treatment* of irritation is similar to that of inflammation. The cause is to be removed or moderated; where a local disease is either promoted or aggravated by the state of the constitution, "the remedies must be in great part constitutional, for, as the general health is improved, so will the local affection disappear."

The excess of irritation is to be subdued, 1st, by restoring the secretions of the different organs, and 2nd, by allaying the excitement of the nervous system. "The combination of calomel, antimony and opium, is one of the best medicines for allaying irritation."

The abstraction of blood is also recommended as lessening the momentum of the circulation, and as preventing congestion in any

vital organ, "but it must be taken away *with the greatest care*, not to diminish too much the powers of the constitution."

The lecture closes with some excellent and pertinent remarks on the influence of the mind on the healthy and diseased operations of the system, and in facilitating or retarding our remedial measures. Some striking examples of the dangerous, and even fatal effects of fear are presented: in one, a child being put into a dark cellar for some trifling offence, was dreadfully frightened—could not be pacified the remainder of the day—on the succeeding day, had fever—soon followed by delirium—frequently muttering "do not put me into the cellar," and in a week she died.

In another child, entire deafness was caused by being terrified by her school-fellows.

This concludes our author's very valuable remarks on irritation, which has, hitherto, been almost entirely neglected by surgical writers. The importance of the subject may justify the remark, that the distinction between local irritation and inflammation, and between general irritation and fever, has not been drawn with sufficient accuracy.

Irritation is the impression made on the nervous system, and is, therefore, the first effect of an injurious cause. *Inflammation* is secondary, it results from the irritation, and not directly from the stimulus, for it involves not only the nervous, but also the circulating system, agreeably to the axiom "ubi irritatio, ibi affluxus." But, as our author has remarked, irritation *may* exist, and may even destroy life without any inflammation; this is his "irritation of sensation," and is exemplified by the pain at the knee in morbus coxarius; by the asphyxia of a part, from a blow, &c. &c.

What is thus true of a part, is true of the whole system. General irritation is often seen without fever, as in convulsions from dentition; so also, death is often induced by a powerful shock or impression made on the nervous system—there is no re-action. But re-action and fever often ensue; being, evidently, always secondary, the first impression being made on the nervous system, the disturbance of which, involves the arterial system: thus, worms in the alimentary canal, induce the symptoms of irritative fever.

That our author has erred, in not drawing this practical distinction with sufficient perspicuity, appears more evident when

noticing the treatment of irritation. His first indication is to restore suppressed secretions, but there is little or no suppression before fever has ensued; hence, he gives no directions, even under his second indication, of allaying the excitement of the nervous system, as to the proper practice to be adopted *immediately* after the reception of a severe injury, where, to borrow an illustration from Mr. J. Bell, the system is rapidly sinking as from a powerful and deadly poison. In such cases, the combination of calomel and opium—bleeding—the attempt to act on the secretions will be in vain, or even detrimental. The prompt exhibition of stimuli internally and externally can alone do good—can alone enable the system to resist the shock and to produce that degree of re-action, so much insisted on by our author, as essential to recovery.

The second lecture treats of *inflammation* as "the means by which local injuries are repaired, and it may be therefore considered as the *restorative principle*."

The usual explanation is given of the four primary symptoms of phlegmonous inflammation, with the exception of the increased sensibility of the inflamed part, "which arises from the extension of the nerves by the greater quantity of blood determined to them:" thus maintaining, that the nervous excitement is the effect, and not the cause of the afflux of blood, which last is the commonly received opinion. Our author also observes, that the *irritability* of a part is exceedingly augmented by inflammation; hence, the chief danger of cutting into inflamed parts, for not only is severe pain inflicted, but the inflammation is greatly aggravated, and the restorative process rendered more difficult.

He describes only four terminations of inflammation, that, by effusion of serum being omitted. The 1st, is by adhesion from the effusion of fibrin (not the albumen) of the blood: 2nd, by suppuration; 3d, by absorption or ulceration; and 4th, by gangrene. "From *excessive action*, the arteries are first enfeebled, and then, their vitality is destroyed; the blood coagulates in them, and gangrene of the part is produced."

The *constitutional effects* are the different symptoms of irritation already noticed.

The *various modifications* of inflammation by structure, are noticed at some length; we can record but few of the observations here made.

The extensive redness of the skin, often seen in compound fractures, should not be confounded with erysipelas; it arises from a continuous inflammation of the *fascia*, and is an unfavourable symptom. Pus is sometimes formed, and when collected under these membranes, causes severe irritative fever.

Tendons rarely inflame, but are sometimes extensively concerned, and when suppuration occurs, the tendon sloughs more extensively than the surrounding soft parts. "Punctured wounds of tendons are apt to produce tetanus, more than wounds of other parts of the body." This, we should say, is very doubtful.

In *Arteries*, an extensive inflammation of the internal tunic rarely occurs, but sometimes by the application of a ligature, in a bad constitution, it is excited, and may extend even to the heart. In these cases there is much irritation "and, what I have generally observed in inflammation of the blood-vessels, pain in bending the different joints, from its changing the position of the vessels."

"I have seen several patients die from inflammation of the *Veins* after venæ-section, and in the greater number bleeding was required for dyspnœa. When, on examination, the inner coats of the vein were found *adherent*, and I have seen suppuration in the vein." The fact of adhesion of the inner and opposing surfaces of veins, is here maintained by our author, in consonance with general opinion, although in opposition to Mr. TRAVERS, who, from experiments, would attribute the obliteration of veins to the thickening and contraction of their parietes, and not to adhesion of their internal surfaces. The seat of inflammation in veins, says our author, is more below the ligature than above it, and seems to be caused "by the excessive distension from the interruption to the return of venous blood."

Wounds of the *Nerves*, "although dreadfully painful at the moment, are followed by little irritation:" portions of the largest nerves may be extirpated with little local or general disturbance. They are but rarely inflamed, but when inflammation occurs, "the pain is excessive, with a tingling feel in the parts to which the nerve is distributed with great tenderness of the skin but no redness."

The inflammatory action of *synovial membranes* is readily induced, and has a great tendency to *suppuration*.

"*Cartilages* in joints ulcerate from inflammation, and often become entirely destroyed."

Bones inflame, adhere, suppurate and form abcesses, ulcerate, become gangrenous, and slough or exfoliate, like the soft parts, and often new bone is formed to supply the place of that which has been separated.

Inflammation is healthy or diseased; acute or chronic; common or specific. "In specific inflammation the vessels have a different action to the healthy, and thus the fluids and solids which they produce have not the usual characters."

"There is another kind of inflammation which I would call the *irritable;* in this disorder the blood-vessels are much less affected than the nerves." Severe pain and irritation, with little or no diseased appearance, characterizes the complaint. It is often met with in the eyes, bladder, testicles and rectum, but most frequently in the breasts of young women, and is accompanied with constitutional disturbance. The proper remedies are those for irritation, with particular attention to the organ concerned. In females with diseased breasts, the uterine functions should receive attention; and in three males "I have been obliged to remove the testicle for this disease."

On the still controverted subject of the *proximate cause* of inflammation, or more correctly, on the *condition of the vital tissues* in an inflamed part, Sir ASTLEY does not commit himself very decidedly. We shall quote his own words, after he has described the appearances produced by irritating the tail of a tadpole, as seen through a microscope, which accord with the observations of Dr. PHILIP.

"With respect to man, we observe, that if a drop of nitric acid be applied on any part of the body, in three or four minutes a rush of blood takes place into the part, and it becomes red. In the parts near to that inflamed, a strong feeling of pulsation is produced, showing that the action of the surrounding vessels is increased, and the heart, sympathising with it, has the velocity and force of its action augmented."

"The vessels of the inflamed part, then, are found to be dilated, but the arteries feeding the inflamed part are also dilated; so that, if a limb be injected, in which there has been any considerable extent of inflammation, the principal vessels, as well as their branches, have their diameters increased."

"Inflammation is, therefore, a dilated state of the vessels of the part, an increased action of those in the surrounding parts, and the heart sympathising with the part, determines a larger quantity of blood to the dilated vessels."

In this statement our author evades the disputed point, whether the capillary vessels are in a state of debility or of excitement during the inflammatory turgescence, although he here evidently inclines to the opinions of VACCA, ALLEN, PHILIP, HASTINGS, &c. that there is a debilitated state of the capillaries with increased action of the supplying vessels. Should we, however, gather his opinion from any other portion of the volume, he must be ranked as an advocate for increased action of the vessels in inflammation. For example, he speaks of gangrene, as being caused by "the excessive action of the vessels," of leeches relieving inflammation, "by abstracting blood from the vessels of *the part*, they (the leeches) lessen their diameters, and consequently diminish their distention and *force of action*." "In the acute inflammation, the object is to *decrease vascular action*, but in the chronic, to strengthen and change it." This inconsistency is, by no means, peculiar to our author.

We can notice but a few of the many valuable remarks in the third lecture on the *treatment of inflammation*.

General bleeding operates principally "by *producing a diminution of nervous power*," whence debility, syncope: it also operates in a secondary manner, by diminishing the momentum of the circulation. A *hard* pulse, however small it may be, is an indication for bleeding; a *quick* pulse denotes irritability, and unless combined with hardness, does not require the lancet. Sizy blood is not to be depended on; our author has seen this appearance of the blood in scurvy. A large proportion of serum contra indicates venæ-section. The following remarks deserve to be seriously remembered:—

"When you are required to take charge of patients, suffering from an injury, which demands a length of time for its restoration, you must be exceedingly careful how you take away blood from the system generally, but must, in preference, adopt local bleeding; for if, as I have observed, you adopt a system of free depletion, nature will not be equal to the restoration of the injured parts, and the most disastrous consequences follow the indiscriminate employment of bloodletting. *There is not a greater error than this, in the practice of Surgery.*"

Mr. TYRREL gives a case of a stout man having a simple fracture of the tibia, with considerable contusion, who died from this cause. "When inflammation occurs in old people, you must bleed with the greatest caution, as effusion is apt to ensue."

The second mode of relieving inflammation is by restoring the secretions of the part, and of the system, which are almost universally diminished or suppressed.

Thus *Purgatives*, by restoring the secretions of the whole mucous surface of the alimentary canal, (nearly equal to one thousand square inches) afford relief by direct evacuation; they are useful, also, by removing fœculent accumulations, and by irritating the intestines—"blood is thus determined to them and abstracted from the part inflamed; upon the acknowledged principle, that *two increased actions* proceed with difficulty in the body at the same time." These good effects are greatly increased when they have an influence also on the biliary secretion.

Diaphoretics, including the warm bath, also act as direct depletants and as revulsives.

In the treatment of *Chronic Inflammation*,

"The remedies employed must have a slow and gradual action on the secretions. You cannot take this disease by storm; and if your medicines act with violence, you will produce mischief, instead of affording relief. The principle on which this disease is founded, is the arrest of some of the secretions; and its successful treatment depends upon their restoration."

For these purposes, our author very strongly recommends calomel and opium, and, also, corrosive sublimate in very small doses; "always keeping in mind, that mercury, given to excess, will tend to increase, rather than destroy constitutional irritation."

When attending to the local treatment of inflammation, the nature of this process is to be borne in mind—"that the vessels are in a dilated state, and that those surrounding it have an increased action."

"Cold, applied generally and gradually for a length of time, to a healthy person, diminishes the power of the nervous system, and has the effect of lessening arterial action, both in force and frequency. When cold is applied locally to an inflamed part, it robs it of its heat, lessens its nervous energy, and diminishes the diameter of the vessels."

Evaporating lotions are useful, by the degree of cold which is produced by this process; and hence, should be so applied that evaporation may go on with facility. "Do not put ice itself to an inflamed part; it irritates, and is apt to produce gangrene."

This assertion, that ice produces irritation, seems rather inconsistent with the previous explanation of the modus operandi of cold, as diminishing nervous energy; but our author meets the difficulty, by observing, that exposure to great cold causes severe *pain;* and hence, is a source of irritation. He founds this explanation on the following experiment: "I plunged my bare arm up to the shoulder into snow; immediately before the immersion the pulse was at 80, and it quickly rose to 109: the result was contrary to what I expected, and I repeated the experiment; the pulse sometimes did not rise so high, but was small and hard."

On this very interesting and disputed point, which demands a very intimate acquaintance with all the laws of life for its profitable investigation, much might be said in opposition to the supposed *irritating* powers of cold, in any degree of intensity. But as our author holds fast to experience, and recommends the local application of *ice* as of signal service in inflammations of the brain and other internal parts, notwithstanding his fears of irritation, we shall, for the present, content ourselves with observing, that the facts adduced in the work under review, demonstrate the almost uniform effects of cold in diminishing the irritability of the ganglionic system of nerves at least, and of course, the action of the heart, arteries, and capillaries, and other systems under the influence of the "organic life" of Bichat. Hence, its advantage in inflammation, and in all other states of increased excitement.

Heat, with moisture, is also useful in inflammatory affections. "The application of heat alone would be injurious, by increasing action; but when combined with moisture, it is beneficial, by producing relaxation, opening the cutaneous pores, and giving rise to perspiration." Thus, our author well resolves the paradox, that heat and cold are both useful in inflammations, but on very different principles; the former by promoting secretions; the latter, "by diminishing nervous irritability, and by lessening the diameter of the vessels." He also observes, that medicated fomentations are not preferable to mere warm water, unless the integuments be broken; but Mr. Tyrrel sagaciously inquires, "If the iris can

be affected by the application of belladonna to the eyebrow; or if preparations of lead are beneficial in inflammation, when the surface is not broken, why may not anodynes allay irritation?"

After some remarks on the use of leeches and scarifications, he describes the local treatment of chronic inflammation. "In the acute inflammation, the object is to decrease vascular action; but in the chronic, we endeavour to strengthen and change it," by astringent and stimulating lotions. "When you apply stimulating lotions, you should cover the parts with oil silk, to prevent evaporation, by which cold would be produced, and your intention frustrated. The object being to excite heat and action, the prevention of evaporation materially assists."

The next mode of treatment is by counter-irritation. Setons and issues, (and it may be added, blisters,) often produce too much irritation, and also irritative fever; thus increasing the original malady they were intended to subdue. "*Counter-irritants should never disturb the constitution.*"

Lecture IV. treats of the *adhesive inflammation*. The effects of inflammation on the blood are noted; and the Hunterian explanation of the buffy coat, by the precipitation of the red globules during a slow coagulation, is adopted: an explanation which to us has always appeared very unsatisfactory; for a perpendicular section of the coagulum presents, not a gradual change of colour from the surface to the bottom, but a sudden transition from the buffy colour of the coat to the crimson colour of the body of the coagulated mass.

Our author points out the usual consequences of the adhesive inflammation, in the cellular and serous tissues, and exemplifies "nature's benevolent and wise ordinance," in rendering the serous membranes very liable to adhesion, while the mucous membranes, lining the outlets of the body, are almost incapable of this process.

The valuable observations which succeed, on the time required for adhesion; on the organization of the fibrin; on the essential importance of adhesive inflammation, in the simplest as well as in the most severe accidents and operations; and the numerous illustrations of its value, in preventing or arresting suppurative inflammation; in compound fractures; in the Cæsarian operation; in operations for cataract, for strangulated hernia, and for aneurism;

in amputations, &c. could not be given without a transcript of the whole lecture. They should, however, be familiar to every student and practitioner of surgery. We shall notice our author's opinion on one or two points, which are still "sub judice," or, at least, not generally adopted.

Speaking of ligatures to arteries, he observes, that the proposed plan of removing both ends of the ligature close to the vessel, "has been already abandoned." One end only should be removed, even when *animal* ligatures are employed; for here, also, when both portions have been cut away, with but one exception, "I have not been able to prevent suppuration." In these cases, Dr PHYSICK, (to whom the credit of priority in the use of animal substances, is due,) would still recommend that the knot only of the ligature should be left, while the immediate adhesion of the wound over the ligature is prevented, by the insertion of a small strip of linen, so that an outlet is preserved for the remains of the ligature, which will often be discharged in the course of twenty-four hours. By this ingenious contrivance, he secures the many great advantages of employing a *destructible* ligature, without any inconvenience resulting. It may be proper to add, that no bad consequences have yet come to our knowledge, from the use of the animal ligature.

In dressing wounds, all coagula of blood should be carefully removed, when immediate union is desired: "blood is not the means, but the prevention of union, in such cases;" "all clots of blood will only operate as extraneous bodies, and keep up irritation." "There is one instance in which blood favours the process of adhesion, and that is, in the application of a ligature to a blood vessel; for a clot of blood forms in the artery, and is afterwards *glued to its interior by the adhesive inflammation.*"

We give this quotation with some surprise, as directly contrary to the previous assertion, and not supported, as far as we can perceive, by the experiments of his friend, Dr. JONES; on which, his opinions, as well as those of the profession in general, are founded.

We quote another passage severely condemning a practice which we may observe every day enforced.

"It is curious to see the difference between the mode of dressing stumps now, and that adopted a few years ago. The old practice was, after the adhesive plaster had been applied, to put some lint,

then plaster again, after that tow, and lastly, over the whole, a cap of flannel. If a surgeon were to do this now, he would be laughed out of the operating theatre; and very deservedly, *because he would prevent the success of the adhesive process by undue heat in the limb.* All that is necessary to do, is to use three strips of plaster over the wound, and one circular piece; if the weather be hot, to apply spirit of wine, and water; and if cool, to keep the stump quiet. The object is *to prevent the inflammation passing beyond the adhesive stage, for then suppuration must be the result.*"

The principle of adhesion has been successfully applied "for the reparation of some portions which have been destroyed by disease or designedly mutilated," as in the formation of artificial noses, as practised by TALIACOTIUS; and also, in the East Indies, Mr. CARPUE has repeated this operation with success. Mr. LYNN has made a new lip from the skin beneath the chin. Mr. COOPER himself, and Mr. EARLE have made new portions of urethra from the skin of the scrotum.

Even small portions of the soft parts, which have been entirely separated from the body, have been again united by the adhesive inflammation.

Lecture V. embraces the *suppurative stage of inflammation.* After some remarks on the local and constitutional symptoms of suppuration, our author again alludes to the proneness of mucous surfaces to form pus before the occurrence of the adhesive inflammation; "a slight degree of inflammation, producing suppuration, or a higher degree of it, adhesion."

The *synovial* membranes, "on account of their mucous structure," manifest the same peculiarity. "The same observations apply to wounds of the thecæ, which are very apt to suppurate."

Pus is a *secretion* from the blood in consequence of inflammation. "It is composed of serum, fibrin and globules; and if I were to hazard a theory on this subject, I should say, that pus was composed of the constituent parts of the blood, slightly changed in their character by inflammation."

"In health it has no putrefactive smell, but slight changes in the constitution will sometimes render it excessively putrid," and of course, irritating. This fact has not been sufficiently attended to in practice; for thus abscesses, apparently trifling, produce often the most serious, and even fatal effects on the system, which may be prevented by a timely opening and evacuation of the cyst.

"The nature also of the matter becomes changed by local inflammation;" mild unirritating pus, becoming acrid, causing excoriation, &c. from changes in the character of the local action.

After noticing the uses of pus, our author gives his testimony as to the danger of arresting chronic suppurations, which suppression will often be followed by inflammation of the lungs, apoplectic seizures, &c. Some cases are given; and he observes—"I can call to mind eight cases of inflammation of the brain, produced by suppression of suppuration from the ear." These dangers may usually be prevented, by keeping up the secretions of the body generally, especially, those of the liver and intestines, which will commonly supersede the necessity of issues or setons, formerly so much used. "Yet it is not to be denied, that a sore will, sometimes, relieve symptoms of diseased lungs, and even of determination to the brain, independent of any direct counter-irritation upon the affected part."

Lecture VI.—"*Ulceration* is the absorption of any constituent part of the body. Inflammation is not confined to the arteries, it has also an effect on the absorbent vessels, which are thrown into a state of inordinate action, whenever any considerable quantity of blood is determined upon them."—Again, he says—"when a considerable and unnatural absorption takes place of some parts of the body, that absorption is denominated ulceration."

This is not sufficiently precise for a definition; for absorption, however considerable, and, in a certain sense, unnatural, cannot be called ulceration, unless a solution of continuity, or an ulcer be formed. Mr. HUNTER's divisions of absorption, sometimes carried too far, are nevertheless true and useful. The *interstitial* absorption, by which the body becomes emaciated, tumours discussed, and fluids removed, and which may often be regarded not only "considerable," but also "unnatural," should be distinguished from "ulcerative absorption," although in both, as our author has observed, there is an increased action of the absorbents, and a disproportion between the deposition by the arteries, and the removal by the lymphatics.

Ulceration often exists without suppuration, and its great cause is "inflammation, united with pressure;" both of these facts are illustrated by the progress of aneurismal tumours to the surface.

The symptoms, extent and rapidity of ulceration, are now well

known, but its laws have not been sufficiently studied. "It has a tendency to the nearest external surface." Under this expression, our author includes the mucous surfaces as well as the skin; hence, abscesses of cellular and muscular parts, generally open on the skin—those of the liver, lungs, intestines, &c. on the lining membranes of the bronchiæ or alimentary canal. "This is a law depending, in some degree, on the *greater irritability* of those parts, which are nearest the external surface; another reason is, that the adhesive process glueing the more internal parts to each other, they become united, and in this way form a considerable solid, but the more internal surfaces have no such support."

Another law is, that new parts are more liable to be absorbed. They are more *weakly* constituted than those which have existed longer, and "*the irritability of a part is proportionate to its weakness.*" Apt illustrations are given of this important principle.

On the same principle is to be explained the fact, "that parts, more remote from the heart, ulcerate more readily than those in the vicinity of it." For one ulcer in the arm, we find twenty in the lower extremities.

Again. Parts that are little organized, in which few arteries and absorbents (nerves, should be added) are distributed, ulcerate with more difficulty, as observed in tendons, ligaments, fasciæ, &c. whence many valuable practical inferences.

The uses of the ulcerative process are next detailed and illustrated, which brings our author to the consideration of *Abscesses.*

After some remarks on their mode of formation, he observes that they become dangerous from their size. This, however, does not arise from the quantity of matter produced, as an abscess may contain a large quantity of pus, and the constitution be scarcely influenced; but it is "*the process of restoration* after the evacuation of the matter, which affects the constitution."

This last opinion is a favourite one with Mr. Cooper, to which he frequently refers, but its correctness may be doubted, as abscesses are frequently discussed, (and, of course, the restorative process is fully accomplished) without general irritation, which same abscesses, had they been opened, would have induced hectic fever, &c. We should, therefore, say, that the constitutional affection arises from an *inordinate* degree of inflammation, which

is the restorative principle when moderate, but very destructive when in excess.

Why the inflammation in open abscesses should be excessive, we shall presently notice.

Another danger of abscesses arises from their *number*. Thus, the numerous pustules in small-pox are very apt to induce an irritative fever, and wear out the system.

Abscesses are dangerous when seated in vital organs, or when they press on important parts, as the pharynx, epiglottis, urethra, &c. &c. An interesting case is given of a patient being saved from impending death, by our author's detecting and opening an abscess situated between the pharynx and the vertebræ, which by its size, impeded respiration.

When the abscess is seated between a bone and its periosteum, the danger is increased; the reason is, the "union between the soft parts and bone is with difficulty produced, and the process of restoration is extremely tedious." This is not to be received as a general proposition, for, in cases of recent wounds, the periosteum will readily unite with bone; in the case before us, the observation is correct, as the bone is affected by the inflammation, and necrosis often induced.

Some interesting remarks are made on *chronic abscesses*, especially of the mammæ, which, says our author, have from their slow formation, been mistaken for schirrus, and the operation of extirpation been proposed and even executed. Two such mistakes he has witnessed.

Acute abscesses, as a general rule, should be left to nature; but when situated under the periosteum, or under a fascia, they should be early opened.

The prevention of scars upon exposed parts of the body, especially on the necks of females, should be a great object; for "no part of the practice of surgery has been more faulty, than the manner in which abscesses of the neck have been treated."

The following rules are given: Always open the abscess before the skin becomes thin and discoloured, as it would then slough; make but a small opening with a very fine knife, and always in a transverse direction, and not in the axis of the neck: for thus the cicatrix will hardly be seen among the folds of the neck: but almost every thing depends on pressing out all the unorganized

flakes of matter or lymph, which are especially found in scrophulous abscesses; as, otherwise, ulceration or sloughing, with deformity, must ensue.

After alluding to hectic fever, the remainder of this lecture is devoted to the important practical question, What influence has the admission of air into cavities, in producing local irritation? Our author observes, "It is my duty to state to you my opinion; you must think for yourselves; only do not rest contented with thinking; make observations and experiments, for, without them, your thinking will be of little use." After this liberal invitation to a candid investigation, and after alluding to the well known experiments of inflating the cellular tissue and the serous cavities, as also to the accidental presence of air in the pleura and tela cellulosa in emphysema, all of which produce no injury, our author concludes in the following very positive manner:

"He who holds that the admission of air produces the irritation attending the opening of abscesses, takes a narrow and partial view of the case; for the cause of the irritation is as follows: If a wound be made into any cavity of the body, be it an abscess or a natural cavity, soon after the vessels of the part are divided, inflammation arises to heal the wound, whether it be exposed to the air or not. If it heal by adhesion, the influence is slight, and directly terminates; but if the adhesive inflammation be insufficient or imperfect, then a suppurative inflammation follows, and granulations arise, which process produces violent influence both upon the part and the constitution. The cause is, therefore, *the division of the blood vessels*, and not the presence of air; and its degree depends on the ease or difficulty with which the injury is repaired."

That inflammation always follows the division of the blood vessels, or of any organized part of the body, whether exposed or not, is true, provided the system be not too much exhausted; but the question at issue is, Why should the inflammation be *inordinate*, and the constitutional irritation *excessive?* This question can only be answered by examining the difference in the circumstances of cavities, before and after being opened; and, at the risk of being considered narrow-minded and partial in our views, we must accept our author's invitation to think for ourselves, and maintain, that the presence of air constitutes the only perceptible

difference in the two cases, and is, directly or indirectly, the cause of the excessive irritation.

The experiments referred to above, prove, in conjunction with other facts, that the directly stimulating effects of atmospheric air, which contains but a certain proportion of oxygen, are but trifling, and yet cannot wholly be denied by any one who will, at intervals, expose the cutis denuded of the cuticle, or an inflamed surface from a burn, to the influence of the air: but the great mischief caused by this fluid, arises from its *conducting powers*, by which heat and moisture are rapidly conveyed away from the surfaces which are freely exposed to a current of air, and thus great irritation ensues.* In this way, chiefly, the necessary inflammation of the external wound becomes aggravated; it transcends the adhesive stage, and extends, by continuous sympathy, to the rest of the cavity, to which the air had really no access: so that the whole is involved in an excessive inflammation, with severe general irritation. Thus it is, that the inflammation of compound fractures becomes more severe than that of simple fractures, even under similar degrees of injury; hence, also, the danger of wounds of the pleura, peritonæum, synovial membranes, &c.; hence, the greater danger of all solutions of continuity with external communications, than of those which have no such communication.

With respect to abscesses, and also to bloody tumours, which have been opened and but partially evacuated, another source of irritation is superadded to this continuous inflammation, from the chemical changes induced by even a few bubbles of air admitted to their contents. This is a matter of common belief in the profession, but which the reader will find abundantly illustrated in the works of Boyer and of Abernethy;† each of whom have proposed, almost simultaneously, the practice of making valvular openings into such cavities, and with acknowledged utility.

Lecture VII.—The second mode of union is by *Granulation*, "a process very similar to adhesion, but differing from it in one respect," viz. that the vessels on the surface of the granulations secrete a purulent fluid, as well as effuse fibrin; which fibrin be-

* Vide Philadelphia Journal, vol. ii. p. 267, for a truly philosophical essay on this subject, by Dr. Henry Bond, of this city.

† Vide Pelletan, "Clinique Chirurgicale," tome ii. p. 98, on the bad consequences of exposing collections of blood.

coming organized, forms a new layer of granulations, and so on, until the cavity becomes filled. This circumstance, that while pus is secreted by the granulations, fibrin is also effused on their surface, "has not, I believe, been observed, and which I learned in the following manner: I took a portion of injected ulcer from the arm, and threw it into alcohol, in order to observe its vascularity. After it was immersed in the alcohol, it was so opaque on its surface that no blood vessels could be seen. It was the fibrous matter covering the surface of the granulations, which had not yet received the blood vessels."

We are inclined to believe this observation correct, from the changes which we have noticed in ulcers, by the application of the powder of red precipitate, not only causing a very healthy secretion of pus, but an evident effusion of fibrin, covering the granulations and facilitating the healing of the ulcer. A strong argument in favour of an idea, suggested, we forget by whom, that there is really but one mode of union; for granulations unite with each other by the adhesive inflammation. To this opinion our author also subscribes.

Many interesting and useful details are presented, on the structure, powers, &c. of granulations. Much attention should be paid to their power of absorption.

Arsenic is frequently absorbed from ulcers; and whether used externally or internally, "produces derangement of the stomach, intestinal canal, and the nervous system, sometimes paralysis," and is a "very dangerous remedy." Quacks, by applying arsenic to remove tumours of the breast, often succeed in destroying "the part, and the patient too."

Opium, applied to ulcers, will often relieve both local and constitutional irritation, and has even caused the *death of a patient*. A tetanic affection in a child, after amputation, was immediately relieved by opium to the stump, and the patient thus saved. "I have known a solution of opium, applied upon an extensive scald in a child, destroy it." Mr. Tyrrel mentions two cases of temporary amaurosis, caused by the use of belladonna to a malignant ulcer, of the vagina in the one instance, and of the rectum in the second. These valuable facts manifest that sufficient importance has not been attached to external applications, in the

treatment of local and general disease, especially of infants, whose systems are easily influenced.

On the formation of the *cicatrix*, our author appears to entertain some novel views. He considers that it is the vessels and granulations of the skin alone, which can form the cicatrix, and answers the obvious objection, that cicatrization sometimes commences at the centre of a sore, in the following manner: "It is not that the centre of the sore has the power of forming new skin, but that the new skin in the centre is produced in consequence of the whole of the original skin not having been destroyed, and granulations arise from the part of the skin which was left."

In the union of wounds, Mr. COOPER believes in the reproduction of all the original parts, excepting two. The cutis, rete-mucosum, and cuticle, are regenerated; so, also, the cellular membrane, tendons, bones, and nerves. As to the last, "there is still some doubt, whether the restoration of sensation is assisted by anastomosis." Pain will often return after the division of a nerve, even when some numbness remains in the part to which the nerve was distributed, as is often seen in the operation for "tic douloureux."

The two parts incapable of reproduction, are muscles which unite by tendinous matter, and cartilages which unite by bone. It might be added, that the regeneration of the substance of glands, and other viscera, never occurs, as of the brain, lungs, liver, kidnies, &c. &c.

In Lecture VIII, our author treats of *Ulcers* in a very scientific and practical manner; but as no new principle is advanced, we shall merely notice his opinions on varicose ulcers and on chronic carbuncle, after observing, that there can be no better test of surgical principles, than their application to the pathology and treatment of ulcers—a test, which the principles here advocated successfully endure.

The formation of a varicose state of the veins, is attributed to obstruction; whence distention, causing ulceration. After noticing the usual treatment, by a recumbent posture, pressure, &c., he says, much benefit is derived from puncturing the veins once or twice a week, and re-applying the bandage; and that no danger attends this operation. He, however, pointedly condemns the practice of tying the veins.

"If I were asked, which of the following operations I would rather have performed upon myself, viz. the saphena major vein, or the femoral artery, tied, I certainly should choose the latter. When an artery is tied, the inflammation is confined to the neighbourhood of the ligature; but in a vein, it is very extensive, the vessel becomes exceedingly distended, the inflammation uncommonly severe, and either extensive suppuration or mortification ensue, and death is the result."

Our author refers his pupils to Mr. TRAVERS' Essay on this subject, and we would also recommend Mr. HODGSON's valuable treatise on wounds and diseases of arteries and veins, in which he has shown that bad and even fatal consequences have arisen from a simple division of these diseased tubes, the puncture of which is not, therefore, so free from danger as our author would represent.

Under the title of "Chronic Carbuncle," our author describes an ulcer, which we have met with in practice, but not seen noticed in books.

"When the constitution is impaired from any cause, it frequently happens, that small swellings form under the skin; at first, they are red, then turn purple, and ultimately slough. The ulcerative process is slow in these cases. A white substance will soon be perceived at the bottom of the sore, called, vulgarly, a core; and as soon as this separates, healthy granulations will form, and the wound become healed."

Constitutional Treatment by alteratives and purgatives is recommended, and great confidence is reposed in the carb. of ammonia, where there is much debility. The local treatment consists in poultices, followed by the lotion of calomel and liquor calcis—("the black wash")—and the gentle use of nitrate of silver. Mr. TYRREL recommends free incisions through the skin to discharge the sloughs.

Lecture IX.—This lecture treats of the interesting subject of *Gangrene*, in a manner so scientific and practical, that we regret the want of space, which confines us to a few of the many important observations of our author.

"Gangrene may be considered under two heads, as produced either by an excess of inflammatory action, where the powers are natural, or by a less degree of inflammation, where the powers of the part are feeble.

These two cases, it will be seen, are essentially the same; for

in both the inflammatory action is too great for the powers of the part. The symptoms denoting the approach of the first, are those of ordinary but excessive inflammation, followed by a change of colour, vesication, &c. &c. with symptoms of local and general exhaustion of the powers of life.

The occurrence of gangrene from a low inflammation is seen, wherever the parts are previously debilitated—our author exemplifies this in gangrene from cold.

"If a great degree of cold is applied to any part for a considerable time, the part will become benumbed, that is, its nervous power will be diminished; and when it is thus enfeebled it will be unable to bear a very slight degree of supervening inflammation, and the destruction of its life will follow."

This observation contains the whole theory and treatment of this complaint. Where parts are debilitated by cold, by contusions, or any other cause, they cannot bear the free return of the arterial blood into their vessels. This fluid stimulates them too violently—induces inflammation, which here (from the previous debility) is excessive, and of course, soon exhausts their remaining powers; whence gangrene or death. Of course, the inference is, *prevent the sudden return of the blood to parts thus circumstanced.* Hence, says our author, in these cases of exposure to cold, "great care must be taken not to apply heat very suddenly."

Gangrene having occurred, the process of separation soon commences. Our author traces the manner of separation in the different structures of the limbs very minutely and instructively, observing, that the line of demarcation is first observed in the skin, and then in the cellular tissue.

"Gangrene occurs to a much greater degree in the cellular tissue than in the surrounding skin, because the cellular membrane is a part of weaker living powers. It is for this reason that a sloughing disposition is so dangerous in sores extending to the cellular membrane."

This fact is exemplified in the extension of chancres in the prepuce of the penis or in the pudendum of the female, often destroying life.

The line of separation in *muscles* nearly corresponds with that in the skin, but this is not the case in *tendons*, which, like the cellular tissue, separate at a considerable distance from the points of sloughing in the skin and muscles. Why? "For it is incapable

of resisting the inflammation, in consequence of its weak living powers, and separates, therefore, at the part where it joins the muscle." *Nerves* separate on a line with the skin and muscles, for their powers of life are great. The large *blood-vessels* are also divided, yet without hæmorrhage. This extraordinary fact is now well known, but the particular details of nature's work are not yet fully understood. The following is our author's account, which is marked by one singularity, formerly noticed.

"The blood in the vessels of the dead part becomes coagulated; the coagulum, however, does not confine itself to the dead part, but extends to the living vessels, which join it, *and is, in this manner, glued to the inner side of the artery by the adhesive inflammation*, so that the vessels are, as it were, hermetically sealed—the same thing takes place in veins."

The separation of dead from living *bone* is very slow, and in another place, our author observes, that the line of division does not correspond with that in the skin, muscles, &c. but extends higher up, as in other weak parts.

Gangrene may sometimes be prevented by remedies calculated to "check the excess of action," as by leeches, and even, by general bleeding, provided the patient is of a good constitution, and in a pure atmosphere; but in all cases, caution is required, for fear "the vigour of the circulation, and consequently, the nervous powers of the constitution, should be too much diminished." "The best means, therefore, of preventing gangrene, are to restore the secretions; to diminish irritability by opium; and, in some cases, to take away very small quantities of blood."

Where gangrene arises from cold, the treatment must be different, as "in these cases, the action of the parts is feeble from a diminution of the nervous power, and it will be proper to restore it to a healthy state by stimulants of the most gentle kind." "The principle is, to stimulate gently, but to moderate the stimulus by evaporation." Gentle friction with camphorated spirits of wine is recommended in slight cases; in severe cases, friction with snow. "The friction is a stimulus which the melting snow moderates."

Thus we prevent gangrene, but when it has commenced, a gentle stimulus is necessary, "with a view of supporting the action of the surrounding parts, which are threatened with the destruc-

tion of life." The most uniformly successful application is the poultice of stale beer-grounds mixed with oatmeal.

The English surgeons have not yet adopted the use of blisters in gangrene from inflammation, which, for many years has been used by American practitioners with great success, at the recommendation of Dr. PHYSICK.

A port-wine poultice and turpentine are recommended also as local applications. During the sloughing process, the nitric acid is on the whole the best application; about fifty drops being added to a pint of water.

The remainder of this lecture is devoted to the question of amputation, and to some peculiar gangrenous imflammations; as that in the feet of old persons (Mr. POTT's gangrene,) carbuncle, and erysipelas, on all which, useful and judicious observations are made.

Lectures X. XI. and XII.—*Injuries of the head* occupy the remaining three lectures of the volume;—and the value of the observations here made, is exceedingly enhanced by the free and apposite introduction of cases, to illustrate every point, and to demonstrate the inseparable connexion which must exist between just principles and a correct practice in surgery.

The subject is introduced by an allusion to the anatomico-physiological phenomena of the nervous system, as consisting first of the brain, spinal marrow and cerebral nerves; and secondly, of the great sympathetic nerve; which two systems in some measure separated, nevertheless, decidedly influence each other, in consequence of their frequent communications.

"If an injury happen to the head, the functions of volition and sensation are diminished; the stomach is disordered through the medium of the par vagum, and from the general communication between the grand sympathetic nerve, and those of the brain and spinal marrow, the functions of the heart and of the abdominal viscera become affected. The powers of the mind are also diminished; the memory is lost; the judgment is enfeebled:—thus sensation, volition, the involuntary actions and the powers of the mind are diminished or suspended."

Injury of the brain arises from two causes, concussion and pressure. The symptoms of *Concussion* are minutely detailed and interestingly illustrated by cases.

With respect to the state of the brain in concussion, it seems that in moderate cases, there is "merely a disturbance of the natural course of the blood through the brain."

"A fit of vomiting, by forcing the blood through the brain, will sometimes almost immediately restore the functions of the mind and body. It seldom happens that this state of brain destroys; but when it does, nothing is found on examination, which will account for the symptoms. It is, therefore, an alteration of function, but not a disorganization." "But when the concussion is very violent, it is attended with lesion of the brain."

These states of the brain are illustrated by various cases and dissections, and there can be no doubt of the truth of these observations; but, we think, there is some inaccuracy in the mode of expressing these ideas, which may lead to improper practice.

We should say, that the symptoms of concussion are the effect of the direct impression made on the medullary or nervous mass of the brain,* and *not* to the disturbance of the cerebral circulation; this last is itself but the *effect* of the former, and, considered abstractly, would give rise to the symptoms of syncope, not to those of concussion.

Under this view of the subject, the mere occurrence of laceration does not increase the symptoms of *concussion*, although it aggravates the *danger* by causing effusion, and of course, symptoms of compression, and also, by increasing the liability to inflammation. A knowledge, therefore, that laceration often occurs in concussion, "leads," says our author, "to a judicious treatment of the injury, as laceration of the brain is frequently followed by extravasation, and concussion in the commencement, may be compression in its result."

This brings him to the treatment of concussion, where his observations are valuable, and are all marked by nice but important distinctions. The great danger of concussion is the liability to cerebral inflammation: this is to be removed, and also to be prevented by bleeding largely, but "this practice may be carried to excess."

"Watch your patient with the greatest possible anxiety, visit him at least three times a day, and if you find any hardness of the pulse supervening after the first copious bleeding, take away a tea-cup full of blood, but do not go on bleeding him largely, for you would, by this means, reduce the strength of the patient too much, and prevent the reparative process of nature."

* Vide the author's observations on irritation.

Many fatal cases have occurred in which by excessive bleeding, "the slight degree of inflammation necessary for adhesion was removed, and the restorative process of nature consequently prevented."

"Hence you are not to resort to it as a matter of course, the moment you are called to a patient under concussion." "This conduct is quite irrational; for suppose the pulse could scarcely be felt at the wrist, and the surgeon were in such a case asked why he proceeded to bleed, what would be his answer? The probability is, that he could make no reply; or he would perhaps say, that he bled, because the accident had determined a great quantity of blood to the brain. It is not with this view, that we bleed in concussion, but in order to prevent inflammation. I have seen patients, who would have died if a large quanity of blood had been taken away at the time of the accident." "The principle on which you should act, is never to do any thing in your profession *without a good reason*." "It is not to bleeding that I object, but to immediate bleeding in those cases, in which there is a remarkable depression of the nervous power."

Hence in all cases, we must wait for some symptoms of *re-action*. To facilitate re-action should any means be adopted? This is a delicate point, and our author almost entirely evades it. Speaking of emetics, he merely observes, "that spontaneous vomiting is often useful, by relieving the stomach of its contents, and by propelling the blood to the brain, and thus restoring the powers of life." Perhaps we may, with propriety, observe, that where the powers of life are evidently sinking, external irritations and stimulating enemata, particularly of assafœtida, as recommended by the experienced Mr. Hennen in his military surgery, should be resorted to; watching, however, their effects, very cautiously, and meeting the first symptoms of re-action by a judicious evacuating treatment.

After re-action is established, besides bleeding our author recommends purgatives (mercurial) as evacuants and counter-irritants, and also diaphoretics of the antimonial preparations, never, however, with opium, as this narcotic stimulant "confounds the judgment, and prevents your seeing what are the effects of the opium, and what those of the injury; for opium produces the same effects upon the brain, as some of the injuries to which it is liable."

Counter-irritation by blisters is very useful, after suitable evacuations, to prevent and subdue inflammation. It is singular, that the application of cold water, and even of ice, to the head, after

it has been shaved, is not here recommended by our author, for of all modern improvements in the treatment of cerebral excitement, nothing is comparable to this powerful repellent. In the subsequent stages, where general excitement has been completely subdued, blisters may be substituted.

Our author enters his decided protest against trephining for any of the symptoms of concussion, at the time of the accident, or subsequently; forty years ago, this practice was very common, but "inflammation of the membranes of the brain followed, and nearly all died." "But do our patients now die from the effects of concussion? No, by depletion we rarely lose a patient." "Trephining in concussion is now completely abandoned."

The symptoms of *Compressed* brain differ from those of concussion, chiefly by the apoplectic stertor, and the slow and labouring pulse: the loss of sensation and voluntary motion, and the dilatation of the pupils are also more frequent in compression. Compression arises from effused blood, from depressed bone, or from the collection of matter.

First. From extravasation of blood. Here the symptoms do not occur immediately after the accident, the patient can often give an account of the circumstances, gradually becomes comatose, and then the apoplectic stertor begins.

The situations of the extravasated blood vary, but there are no symptoms during life by which its locality can be designated. When exterior to the dura mater, it is circumscribed, and hence not in any great quantity. Our author has never seen more than ℥iij effused in this situation. When, however, the effusion is under the dura mater, a large portion of the brain will often be found covered by the blood.*

The reason of this diffusion of even a small quantity of blood, between the dura and pia mater, we can only explain by allowing the correctness of BICHAT's description of the tunica arachnoidea, as forming in reality, a serous cavity between the pia and dura mater; one portion of the arachnoid membrane lining the dura mater, and another the pia mater, in the same way as the pleura covers the lungs, and also the ribs.

* There are here several erroneous expressions in the published text, which we can only attribute to a hasty transcript of notes by the editor. We have endeavoured to present the true views of the author, we hope, with success.

In these cases the blood is effused from a rupture of the vessels of the pia mater. Blood is also sometimes effused in the substance and ventricles of the brain.

In the treatment, free depletion to prevent and to remove inflammation, and it might be added to promote absorption, is nearly all that should be done. "If there be a bruise, indicating the spot at which the injury had been sustained, you may trephine, *after* every other means have been tried ineffectually." In some cases, however, when the blood is seated under the dura mater, and exterior to the pia mater, in the arachnoid cavity alluded to, it protrudes the dura mater through the opening in the bone made by the trephine. We regret that this case has not been noticed more distinctly by our author, for here, the best surgeons forbid the puncture of this membrane as being almost inevitably fatal.

Whence this danger? We should say, from opening a serous cavity, the sides of which are, in this case, kept from uniting by the coagulated blood, and hence, in almost every instance, become subject to a continuous inflammation, extending over the hemisphere of the brain; precisely as a pleuritis follows wounds of the pleura, accompanied by collapse of the lungs, and where the external wound does not unite. Such extensive arachnoid inflammations are almost always fatal, and here the danger is aggravated by the presence of blood more or less altered by the influence of the air.

A *fracture* of the cranium, in itself, is seldom dangerous, but becomes so by being complicated with symptoms of concussion or compression. There is also a remote danger, even in simple fractures, from inflammation.

The treatment of fractures of the cranium must, therefore, vary considerably, and requires an aquaintance with the nice distinctions laid down by our author.

The first case supposed is a fracture without injury of the brain, and without depression. If there be a wound of the integuments, endeavour to heal it by the adhesive inflammation as soon as possible. Should there be no external wound, never make an incision to examine the state of the bone, &c. as you would thus convert it into a compound fracture, with all its dangers. Trust to constitutional treatment.

Even if symptoms of injury of the brain be present, do not de-

cide hastily. It not unfrequently happens, that after bleeding, the symptoms of concussion disappear, or those of extravasation lessen so as to lead to a different view of the case.

The next case supposed, is a simple fracture with depression. It is not always easy to determine whether the bone is really depressed. But, where there is actually depression of bone, yet no wound of the scalp, and no symptom of injured brain, it would be wrong to make an incision to the bone, and to trephine, as a "simple" would thus be converted into a "compound" fracture, and consequently, greatly increase the danger of inflammation, "which rarely follows a simple fracture with depression." "Even if there be symptoms of injured brain and the fracture be simple, do not immediately trephine. If the symptoms do not yield to depletion, then, and not till then, perform the operation of trephining."

"If the fracture be *compound*, the treatment must be very different; because a compound fracture is followed, very generally, by inflammation of the brain, and it will be of little use to trephine when inflammation is once produced." The operation would increase the inflammation. In all recent cases of compound fracture with depression, the sunken fragments should be elevated; although it is true, that inflammation does not always follow such accidents, yet an exemption should not be calculated on. These principles are illustrated by cases.

He also details several valuable cases, to illustrate another important observation, too much neglected, viz. That symptoms of compressed brain are not always immediate, but may appear weeks, months, and even years after the accident, and remain for a short, or even for a long period. This arises from any cause, inducing a hurried circulation in the head, the cavity of which is lessened by the depression.

In one case, hemiplegia and insanity was almost immediately relieved by trephining a patient, six weeks after the accident. In another, epileptic fits, occurring frequently, were entirely cured by the same operation, six months after the reception of the injury.

"*Wounds* of the brain frequently happen without immediately producing any interruption to the operations of the mind; but, should the wound be accompanied by either compression or concussion, then the particular symptoms, which characterize those injuries, will be

present. If, however, the wound be a simple incision or laceration, it does not produce symptoms until inflammation succeeds. Indeed, considerable portions of the brain are lost, and yet the mental and bodily functions continue unimpaired."

These observations, we conceive to be very valuable, for, although their truth must have been long practically known, yet surgical authors have not, with sufficient distinctness, noticed, that a mere solution of continuity of the brain, in itself considered, is accompanied by few bad symptoms, provided that no compression or concussion be present. Hence, the danger of these accidents arises, says our author, from two causes: inflammation, and the formation of a fungus.

Wounds of the brain unite like other soft parts of the body, by adhesion or by granulation, both of which are the result of a moderate inflammation. Hence, care must be taken on the one hand, to prevent an excess of inflammatory action, and on the other, not to lower the system so as to prevent inflammation. If adhesion does not occur, "granulations form, which at length project through the opening of the skull, and give rise to the fungus of the brain. Upon its proper treatment the safety of the patient depends; if it be not repressed, the constitutional irritation, and the danger of a fatal termination, will be great; if the rising of the fungus be prevented, a cure may be effected."

Mr. Cooper recommends *pressure*, by means of a piece of lint, wet with liquor calcis, secured by adhesive plaster, applied so as gradually to reduce the fungus to a level with the bone, when cicatrization will take place from the edges of the scalp. In doing this, great care is to be paid, that symptoms of compressed brain are not produced, as in this way much injury might result, of which our author himself details cases. "It is sometimes necessary to apply caustic to the fungus." "This plan of treatment, by repressing the growth of the fungus until the scalp heals over it, is unquestionably the best," and is, as usual, illustrated by cases.

The cases noticed by our author, are strictly a "*fungus*" of the brain, arising, as he says, from exuberant granulations, but there are other cases to which the term of "*hernia cerebri*" is applicable, which, we regret, he has not described.*

Hernia cerebri consists in a protrusion of the substance of the brain, through an opening in the cranium and dura mater, some-

times very little altered from its natural appearance, but generally more or less disorganized by the original injury, or the subsequent inflammation.* The protrusion appears, in all cases, to be caused by the effusion of fluids, especially of blood or of pus, within the cranium, causing pressure on the brain, and is hence usually accompanied by *symptoms* of compression of this organ. The propriety, therefore, of the common practice of excising these hernial tumours, of applying caustic, or pressure, is exceedingly questionable; and experience is yet to decide how far the plausible suggestion of ABERNETHY, BOYER, HILL and PHYSICK, of evacuating the effused fluids by puncture, will be justifiable. There are many strong arguments against the operation, and in the present state of our knowledge, it would only be justifiable in desperate cases.

The subject of *Inflammation* of the brain and its membranes, is next more particularly noticed. When suppuration has taken place, the matter is sometimes, although rarely, situated exterior to the dura mater, and may be successfully removed by trephining. "I have witnessed one case of an abscess in the longitudinal sinus of the dura mater."

The most usual situation is between the pia mater and the brain; "and in this case, the matter is diffused over the hemispheres of the brain." "When the matter is seated between the pia mater and brain, it will be of no use to open the dura mater, as very little will be discharged, there being no communication between one part and another; for the matter is contained between the vessels which pass from the pia mater and brain."

There seems to be some inconsistency in these two observations; for, if there be no communication between the parts, how can the matter be diffused over the brain?

When the matter is found thus extensively diffused, is it not situated between the dura and pia maters, in the arachnoid cavity?

When matter is situated in the substance of the brain, "the only circumstance very curious, is, that you would not suppose from the symptoms, that matter was forming; they are those of compression, rather than irritation. If the membranes of the brain be attacked with inflammation, symptoms of irritation will be present; but if the brain itself, they will be those of compression."

* Vide Stanley's Observations in Medico-chirurgic. Trans. vol. 8.

Inflammation of the brain is more slow in its occurrence than that of other organs; it rarely comes on sooner than a week, sometimes, not for two, three, or four weeks; and our author gives a case of its occurring three months after the accident.

The usual treatment is directed for inflammation of the brain.

It will be right, when with symptoms of compression of the brain, there are also indications of the formation of pus, to perforate the cranium, and examine whether the matter be exterior to the dura mater. But "when an abscess is placed *beneath* the dura mater, I have never seen a case recover from trephining for it, although that membrane has been punctured for its discharge." In a note, it is added, "when the dura mater is punctured, the pia mater should be punctured also, as adhesion will more readily occur." Soon after, we notice the following observations, the truth of which we have advocated, since we met with BICHAT's description of the arachnoid membrane, already alluded to at page 181.

"It is certain, that there is less danger when the dura mater and pia mater are both wounded, than when the dura mater is alone injured. I will tell you the reason: in the former case, where both the dura mater and pia mater are wounded, the brain immediately projects and fills the wound. If I were to pass quicksilver through an opening of the dura mater, where would it go? Into the lower part of the spine, between the tunica arachnoidea and the dura mater. (Between the two lamina of this arachnoid tunic. BICHAT.) Inflammation of the dura mater (of the arachnoid membrane, BICHAT,) spreads over the whole cavity, as erysipelas does over the surface of the body; whereas, in the first kind of injury, fungous granulations will project through the opening, which would easily close by the process of adhesion."

Which adhesion, here, as in other serous cavities, would, of course, check the continuous inflammation.

The volume closes with some judicious observations on injuries of the scalp—pointing out the dangers which often result from the most simple, as well as the most complicated, wounds of this sensible and irritable portion of the head. We forbear, however, any further remarks, and conclude our laborious analysis, with the wish, that the future volumes of this work may be written with more attention to perspicuity. Should they be as valuable as the present, we shall not fail to diffuse as widely as possible, a knowledge of their more important contents.

MEDICAL LITERATURE.

RETROSPECTIVE REVIEW.

ARTICLE XIII.—"*Georgii Baglivii, Opera Omnia Medico-Practica et Anatomica. Venetiis, ap* GASPARUM GIRARDI, 1738, 4*to.*"

THE gastritic and gastro-enteric theories of fever, which have obtained so many powerful advocates in our own day, have lately caused the name of the distinguished writer above-mentioned to be brought more frequently before the profession, than it had been during the preceding forty or fifty years. A sketch, therefore, of his opinions in reference to these theories, may not be ill-timed, since he has very strong claims to be considered as their author and promulgator, as we shall show.

BAGLIVI was born in 1669, at Ragusa, on the shores of the Adriatic; he studied medicine first in the ancient school of Salernum, and afterwards at Naples, from whence he proceeded to Bologna, at which university he received the Doctorate. When he had travelled throughout Italy and Dalmatia, visiting various hospitals and seminaries of learning, he settled at Rome, was appointed to the chair of the Theory and Practice of Medicine, and in 1695 was made Professor of Surgery and Anatomy, by Clement XI.

BAGLIVI's reputation was very great during his life-time, and he enjoyed the respect and celebrity which are too often awarded at a period in which the object of them can be little benefitted or gratified: The anticipation of honours, to be paid when the body is dissipated and resolved into its original elements, can afford but small incitements to the vigorous prosecution of literary labours or enterprises; they are the happy, therefore, who enjoy them during their life, when they can see, and hear, and know, that their labours are not in vain.

The works published by BAGLIVI, have always enjoyed considerable reputation, which is now increasing, rather than diminishing.

He is admitted, on all hands, to have been a learned man, possessed of an inventive and vigorous intellect, trained to habits of close and discriminating observation, which would have probably been very greatly developed, but for his premature death, which occurred on the 17th of June, 1707, he being thirty-eight years of age.

The subjoined bibliographical* list contains, we believe, the titles of all his works, and the large account of editions will show, in some degree, the respect they have had. For the present, our intention is, not to examine the whole of his works, but to confine ourselves to a very short account of what he thought concerning the gastric affections in fever.

Baglivi was in some degree a sound solidist, especially in reference to practical medicine. It was too early, however, to become sufficiently a solidist. The humoral pathology, which, with very slight modifications of the Hippocratic statement of it, had reigned from the days of Galen, was not immediately subverted by the brilliant discoveries in anatomy and physiology which distinguish the seventeenth century. The new doctrines of absorption, hæmatosis, and circulation, were certainly the grand levers by which the final overthrow of this monument of antiquity was effected by the Gottingen school, under De Haller, followed by the Edinburgh school, under the auspices of Dr. Cullen. The greatest credit is due, however, to Haller; for it was by his scholars that solidism was first clearly announced, "Ergo a fibrarum aucta aut imminuta irritabilitate omnis morbus."

Haller's experiments on irritability and sensibility were commenced about 1742; and he edited the "Experiences sur les par-

* De Praxi Medica ad Priscam observandi rationem revocanda, libri duo, Accedunt Dissertationes novæ. Rom. 1696, 8vo, Lugd. Batavor, 1700, 8vo: translated into English, and published under the title of Practice of Physic; containing a just parallel between the wisdom and experience of the ancients, and the hypotheses of modern physicians, with a curious dissertation, &c. Lond. 1704, 8vo. Specimen quatuor librorum de Fibra Motrice et Morbosa, Ultraj. 1703, 8vo. Canones de Medicina Solidorum, Lugd. Batavor, 1707, 8vo. Opera Omnia, Lugd. 1704, 4to; *Editio Septima*, Lugd. 1710, 4to; Paris, 1711, 4to; Nuremberg, 1738, 4to. (*My copy, as at the head of this article, is Venetiis*, 1738, 4to, *and is noticed neither by* Brunet *nor* Watt.) Venetiis, 1752; Paris, 1765; with a preface and emendations, by Pinel, in 1788, in 2 vols. 8vo. De Vegetatione Lapidum in oper. ejus. *Vid.* Watt's *Bibliotheca Brittan.*

ties sensibles et irritables du corps humain," in 1759.* He died in 1777. But Dr. CULLEN did not begin to lecture on physic till after these works were published, (i. e.) in 1766. If, as we verily believe, these works changed the whole face of theoretical physic, we ought to give DE HALLER the credit of this change, as his life which was glorious for the profession and for humanity, was devoted wholly to the advancement of the one, and the benefit of the other. We make these remarks in reference to a general belief, here and in England, that Dr. CULLEN deserves the principal credit in this matter. The triumph of CULLEN's spasm over BOERHAAVE's lentor, &c., or rather the proud success of the Edinburgh school over its prostrate rival at Leyden, has given to the Americans the habit of looking to CULLEN and his school, as the great fountain of reform, which is unjust. Sir GILBERT BLANE, in his work called Medical Logic, says, "It was in the school of Edinburgh, under Dr. CULLEN, that the doctrines of BOERHAAVE received their chief overthrow. CULLEN was the first who clearly marked and defined the principles of life, as distinguished from those of dead matter."—p. 78. Than which, nothing can be more incorrect, since the merit is HALLER's.

It will be evident from the foregoing that BAGLIVI lived in a time unfavourable to the acquisition of sound pathological views, and his ideas of disease are certainly involved in, and obscured by, the predominant theories in which he was educated. Yet, trained in habits of close observation, the mind will judge for itself with a clearness and freedom, which no clouds of error, no dogmatical pale, can wholly prevent.

We shall now proceed with our business, which is to show what were the peculiar opinions of BAGLIVI.

It is well known that much controversy has long been had in regard to the existence or non-existence of idiopathic fever, and although most of our physicians, who have been in practice twenty years, derived their ideas of pathology, either directly or indirectly, from the Edinburgh School,† it is probable that a majority of the profession here is inclined to believe in the local ori-

* His paper, De parib. corp. hum. sculicuti 6. irritabil. appeared in the Gottingen Comment. 1753.

† Dr. Cullen's definition is, Febres, Prægress is languorelassitudine et aliis debilitatis signis, pyrexia sine *morbo locali* primario.

gin of all febrile affections. Dr. Cullen comprises in his order of (idiopathic) fevers, not only intermittents, as tertians, quartans, quotidians, but also continued fevers, as synocha, typhus, synochus and even hectic.

Dr. Wilson Philip supposes the exanthematous fevers to be strictly idiopathic, and accordingly arranges them in his second class of febres idiopathicæ. Fordyce admitted idiopathic fever. Dr. Clutterback believes that all these fevers depend on a primary affection of the brain. Dr. Broussais attributes them to inflammation or irritation of the mucous membrane of the stomach and intestinal canal. In the University of Pennsylvania the local origin from irritations of the stomach is widely promulgated.

Dr. Beddoes thought that typhus, synochus, malignant, spotted, yellow, and other fevers, though called idiopathic, have, at all times, been attended by local inflammation.

Heister held the gastro entritic theory, in its fullest extent, as applied to malignant diseases.

Duretus in the coacæ,* held the local doctrine in relation to leipyrias and malignant fevers generally.

Riverius says, that acute and malignant fevers rarely arise without inflammation of some viscus.

Baglivi who has so strongly asserted the local doctrine in regard to what have been called malignant diseases, seems to admit the existence of idiopathic fevers, in the introduction to the treatise de fibra motrice, as may be seen in the following.

"In universal (idiopathic) fevers, (i. e.) such as depend on a morbid state of the blood, we have less occasion to trouble ourselves about the *affected part* for the purpose of drawing from thence the curative indications. The primordiæ of fevers, or first morbid part, are mostly unknown, and if we should ever learn them, it would still be necessary to direct the means of cure rather in reference to the state of the feverish blood, than to any sophistical speculation about proximate causes, or the first morbid point, which are too subtle for our comprehension. These directions are applicable to all those fevers which derive their origin not from læsions of the organs, but from congestion of humours in the primæ viæ, or in the mass of the blood.—Oper. 157.

To the above we may add what he has said in his Lecture "de Febribus in genere," as to the cause of most of the cases of

*Commentaries on Hippocrates.

fever which he met with in his practice. The doctrine taught in the practical chair of the University of Pennsylvania, is, that the aerial poisons which occasion fevers, are taken in by the mouth, and conveyed to the stomach by saliva, in which these poisons become entangled. The same is taught by BROUSSAIS.* BAGLIVI expresses himself as follows.

"Some of those *summer* fevers which prevail at Rome, are caused by the errors in diet, which persons are tempted to commit in the country, and not by any aerial poison; but leaving *such cases* out of the question, we shall find the generality of them produced, not (as commonly supposed) by an acid, but by aerial alkaline salts; for the various earthy and mineral particles which are raised into the air by the solar heat, become extremely attenuated, and acquire a highly volatile, alkaline, rather than an acid, nature, and being, by means of the respiration, communicated to the blood in the lungs,† produce in the first place, a dissolution of the mass, and afterwards the effects of coagulation.—(*qu! lentor.*)

We are not prepared to admit that idiopathic fevers are so rare as many persons imagine, and have no objection, therefore, to the hypothesis of BAGLIVI, that the miasmata of marshes or of human bodies, may as well operate on the system by means of the lungs as by the means of saliva conveyed into the stomach, for the opportunities of attacking us by the latter are much less numerous than by the former; furthermore, as we have no gastritic theory to uphold, we may with more propriety admit that more than one avenue is open for the entrance of the febrile causes. By adopting the gastritic theory, the Broussaians, in order to be consistent, have applied their gastritic explanation to the mildest forms of intermittents, and have admitted, without any modification, the old maxim "ubi irritatio ibi fluxus,"‡ a maxim, which, in the main, is true, but which it requires a whole train of patho-

* Les vapeurs putrides sont avalees monsieur avec la salive a laquelle elles se melent continuellement; les surfaces digestives en sont impregnees, &c.—*Catechisme*, &c. 53.

† The same doctrine is taught in PARE'S treatise on the plague.

‡ Or, ce qui appele le sang dans les visceres c'est *l'irritation*; je veux dire que l'action vitale, augmentant tout a coup dans les organes interieurs, le sang s'y precipite et abandonne les parties exterieurs." —p. 263. "Et comme le sang ne se meut pas de lui meme mais se rend coustamment ou l'irritation lui appele, &c."—p. 265. *Le Catechisme de la Medecine Physiologique.*

logical reasoning to prove and establish, the two ideas irritatio and fluxus, being not at all approximated in this case, but on the contrary, divided by several others of great weight and importance.

But if Baglivi was not to the full a Broussaian, he carried the doctrine far enough for us, in the section on malignant and mesenteric fevers, concerning which, he remarks that

"The generality of physicians, as well as the common vulgar, deem those to be malignant fevers, which, being accompanied by a variety of bad symptoms, manifest a rapid tendency to a low state. This fanciful appellation, malignant, owes its origin to the ignorance of physicians themselves, and is kept in use by the common people, who obstinately believe that all who die with fever are the victims of its malignancy: There are even many physicians, who adopt this latter opinion. I will not deny that fevers are occasionally produced by a poisonous humour, as for example, in such as have eaten poisonous mushrooms, and similar noxious food; but I do deny them to be of such frequent occurrence as is imagined, both in and out of the profession; Those which seem to be malignant being referrible to *a phlegmonous or erysipelatous inflammation of the viscera*, (i. e.) they can be traced to an assignable and evident cause; where then is the malignancy?"—Opera 32.

After noticing what he calls *febres lymphaticæ*, a kind of remittent, which he regards as among the most pernicious in the world, he proceeds to show that the symptoms of malignancy are often the consequence of bad treatment; he says, that when he has the whole management of a case from the commencement, he has

"Rarely had to contend with any malignant fevers," but notices in the patients of others, "a thousand various and grave accidents, which frequently are fruits of the bad method of cure, and do not belong to the disease strictly. Though these be the common and daily results of experience, some are occasionally met with of a grave and dangerous character from the offset. These the vulgar call malignant, (i. e.) dependant on some poisonous humour, on which imaginary and fictitious account, recourse is immediately had to spirituous, aromatic, alexipharmic, hot, volatile, and a thousand such incompatible remedies, which add to the dangers they are intended to remove."—33.

Baglivi in the above passage certainly advocates a reasonable solidism, which might be advantageously imitated by some of our moderns, who use the term malignant without much consideration of the real value of it. As in the case of yellow fever, confess-

edly dependant on inflammation of the stomach for a large share of its importance, and not at all on any putrescent alteration in any portion of the fluids. The following passage will make still more manifest the gastric pathology of our author.

"As for me, I may truly say, that by diligent observation, and close meditation on the subject, I have learned that these malignant fevers are traceable to two principal causes. 1st, *Inflammation of the viscera*, and 2ndly, *crudities existing in the primæ viæ*, or mass of the blood. At Rome this *morbid state of the first passages is most generally the offending cause*, and not any change in the circulating mass," &c.—32.

He is confirmed in this view, by what occurs in delicate persons affected with fever, or such as are of studious habits or dyspeptic, "in whom," a slight disturbance of the

"Humours by increase of heat, or a biliary derangement, has been sufficient to disorder the whole system, so as to produce dryness of the tongue, smallness of the pulse, cold extremities, anxiety, and other such symptoms as denote malignancy; but which in reality, depend on *irritations seated in the stomach itself*, and which have disappeared when these irritations have been allayed."

The term mesenteric fever, as used by our author, is objected to by Heister, who has written a very good chapter on them, under the title of acute stomachic, and intestinal fevers, which he prefers to the term mesenteric, as conveying a more just idea of their nature.*

Having now presented his ideas in the general, we shall proceed to the more particular details of the several kinds of mesenteric and malignant fevers, in order that the reader may see the extent to which this pathology is applied by Baglivi.

"Among what are called malignant fevers, the principal ones are those which the ancients have denominated tritæophyas, hemitritæus, typhodes, assodes, elodes, leipyria, and epiala, all which are certainly of a very grave character, and deadly, except the patient happily fall into the hands of a learned and prudent physician, for those symptoms which are commonly but falsely noted as malignant are very rapidly developed. They are to be ascribed to an *internal inflammation*, which occasions an impeded flow of the liquids, and a great variety of serious accidents; or else, to a morbid state of the humours in the primæ viæ, or in the mass of the blood. If this be not carefully distinguished and understood, more harm than good will result from the physician's ministrations."

* Heister's Compend. Med. Prac. p. 85.

Precisely the same enumeration of diseases as the above, is made by Heister, in his account of acute stomachic and intestinal fevers, with the addition of dysenteric, petechial, and catarrhal fevers. "All of which," says he, "may be conveniently comprehended under the common titles of stomachic and intestinal fevers; for there is no necessity, as before said, of multiplying names and entities, which confuse the student and occasion mistakes."*—p. 89.

Dr. Broussais comprises them under the titles of gastritic or gastro enteritic fevers, as in the Catechisme, p. 28, 29, 30, in which the bilious or gastric, mucous, ardent adynamic, putrid, malignant or cerebral, and inflammatory fevers are explained.

Baglivi says, p. 34,

"All continued fevers which have exacerbations every day, with an accession of bad symptoms, are either in the number of tritæophyas or hemitritæus." "The hemitritæus, or double tertian, has accessions every day; but the fever is more acute one day than another." "The accessions of semi-tertians are very long, lasting from twenty-four to thirty-six, and even forty-eight hours, and occasionally becoming apoplectic." "They are very dangerous, particularly on account of the gastric læsions which they occasion, and frequently degenerate into hectic and dropsy, the consequence of *depraved alterations of the primæ viæ*. Indeed, I may candidly confess, that *two-thirds of the fevers* which prevail in Rome, are deducible from an *infarcted mesentery*, and a protracted, putrid cacochylia." "Those who labour under protracted disease, generally perish with this sort of fever; for the long duration of their sickness weakens the tone of the stomach, its digestive power is destroyed, and the primæ viæ being oppressed with crude and undigested humours, the fever finally breaks forth." "In the number of malignant fevers, is to be mentioned the leipyria, marked by vehement inflammation of the stomach, great heat at the centre, and coldness of the surface of the body. *It depends on ignis sacer, or erysipelas seated in the stomach.*"

Baglivi regards this inflammation as seated "in that part of the stomach which corresponds to the concave surface of the liver;" and its "importance is increased by the obstructions to the flow of bile consequent on this inflammation." This sentiment seems to be echoed by the Medecins Physiologistes, who suppose that in some of the *gastrites*, the bile, in consequence of irritation and inflammation, is attracted into the stomach; but if, by bad

* Vide Heister's Comp.

treatment or otherwise, the case is converted into a gastro-enterite, then the bile proceeds into the intestines. Vid. Le Catechisme de la Medi. Physiolog. Paris, 1824, p. 16.—"The bile is a matter entirely passive, which goes wherever irritation invites it—qui se rend on l'irritation l'appele," &c.

But, to return to BAGLIVI; he says, "An *inflammatory crispation of the stomach*, produces a similar crispation and disorder in the whole system of vessels and fibres; whereby, the circulation of the fluids towards the superficies being impeded, coldness is necessarily produced. This is also the occasion of the dry and parched state of the tongue, the vehement thirst, the quick, small, irregular, scarcely perceivable, pulse. This small pulse is observed in all affections of the stomach, and especially in such bad sorts of inflammation as the leipyria."—p. 35. "Neither venæsection nor purgative medicines are proper in the commencement of leipyria." We shall not detain the reader, by laying before him BAGLIVI's reasons for excluding these important agents on these occasions. This practice seems inconsistent with that which he recommends in typhus; but the extreme violence of the attack, and the rapid development of bad symptoms, are, it is presumable, the reasons which deterred him from venæsection.

It will be remembered, that leipyria is inflammation of part only of the stomach; but

"Typhos *totum* occupat ventriculum." And, again, "Typhus, or ardent fever, depending on *inflammation of the whole stomach*, is marked," &c. &c. p. 36. "In *inflammations* of this sort, blood is immediately to be taken from the arm, at any period whatever, and in proportion to the necessity of the case; because, if it is deferred, there is great danger of the *inflammation* terminating in abscess or gangrene."

In relation to the efficacy of bleeding, he remarks, that he has seen "the epigastric tension, and other bad symptoms, yield immediately after a bleeding, and a repetition of this operation has cured the patient." After bleeding, he advises us to have recourse to nitre, antimonials, and bland demulcent drinks, as barley water. He particularly recommends scabious tea: "Avoid," says he, "the use of too many medicines"—fuge purgantla tanquam pestem!! Yet he recommends us carefully to obviate accumulations of fæcal matter, by means of fomentations and enemata; and when these are found insufficient, some mild preparations with tamarinds, may be cautiously used, provided the *great ardor* and the extreme violence

of the inflammation do not contra-indicate. Baglivi seems to have entertained an abhorrence of purgatives, at least equal to that of the Medecins Physiologistes. In the De Fibra Motrice, cap. vii. corrol. p. 193, he observes, "When the resistance of the solids is greater than that of the fluids, in consequence of their excessive siccity, irritation, and tension, if you give strong diuretics, purgatives, or diaphoretics, you will just in proportion to their strength increase this irritation," &c. &c. This doctrine is sufficiently general to excommunicate the whole tribe of cathartic medicines, and brings to mind the singular position of Tissot, in his Discours preliminaire to Haller's Experiences sur l'irritabilite, &c., viz. "We may hope to see established as a fundamental maxim, that, except in a very small number of cases, every purge is destructive to the human body; and that the less we have of health to spare, the fewer we should take of them."

This doctrine, whether expressed by Baglivi, Tissot, or Broussais, must sound as very extraordinary in the ears of American physicians. We have certainly no wish to speak in the least degree harshly of the Broussaian doctrine on the subject of purgative medicines, or any other subject, but are free to express our admiration of its simplicity and unity. Perhaps the lancet, leech, gum water and blister, may eventually supplant the whole race of pharmaceutists and apothecaries. We may be permitted to say we regret that all those who have lost patients before the promulgation of the doctrine physiologique, must be considered as accessaries of the grim tyrant whom they pretended to baffle. It may be true, a Broussaian would cure the patients that we should lose, (not kill,) and if so, they are quite justifiable in their confidence, in their present theories of fever; but this confidence has not been wanting at all times; and all men have found some to believe them,* better qualified for their peculiar employments

* Guillemeau, in his apologie pour les chirurgiens, (Opera, p. 804,) says, "Les discours communs de chacun, sont aujourdhuy plus vains, fabuleux, et imaginaires, que la naissance des Dieux, l'histoirre des Geants, la Doctrine de la pierre Philosophale, and mille autres phantasques chimeres. Il ne se trouve a present en France qu'un bon chirurgien, que chaque Seigneur croit avoir; d'ou leur commun dire, J'ai le mellieur chirurgien du monde, et comme tel, on le vante de mille absurdes impossibilitez. L'un loue le sien, d'avoir en un tourne-main, guéry quelque blessé tout au travers la teste, dont le cerveau en sortoit; l'autre soutient accariastrement, le sien avoir remis un oeil tombé en terre, sans perte de veue, ou bien avoir coupé une portion du foye, ou ratte, sans que la mort soit ensuivie: quelqu'un

than all others beside. One thing is certain, viz. That a vast multitude of persons of every age, sex, and condition, have been hurried to untimely graves since the year 1793 in the United States, provided, always, the Baglivian or Broussaian doctrine on purgatives in fever be correct. As to JAMES HAMILTON, M. D., author of the excellent work on purgative medicines, what an enormous evil has his existence been, if they are of such fatal tendency as has been represented! As we are on the subject of typhus, we cannot do better than give his account of the state of practice on this point, about the middle of last century. Dr. H. was appointed physician to the Royal Infirmary in 1765. He informs us that

"At that time the cure of typhus was thought to consist chiefly in the removal of atony and spasm from the extreme vessels of the surface of the body. For this purpose, together with other medicines, weak antimonials were given freely; an emetic and purgative medicine were exhibited on the first approach of the attack, but the state of the stomach and bowels was little regarded in the after periods of the fever. An alvine evacuation was occasionally procured by a mild clyster, while purgatives were given with extreme diffidence, least, by their operation, they should rivet the spasm of the extreme vessels, and increase debility, one of the supposed direct causes of death in fever. These apprehensions may still bias the practice of some, as they certainly did bias mine for a long time."—p. 18.

At page 21, he says, "more extended experience confirmed these conjectures (of the value of purgatives in typhus,) and I was gradually encouraged to give purgative medicines during the course of typhus, from the commencement to the termination of the disease." Dr. HAMILTON has never had occasion to regret the use of purgatives in typhus fever, when used within his limits. Dr. H. made use of calomel, jalap, senna, magnesia, salts, and such articles which are of considerable force, at least not deserving the name of trifling. The doctrine of the modern school, or which is called the physiological school is, that all these fevers are inflammations of the mucous membrane of the stomach, when they are gastric fevers, or of the stomach and bowels when they

jugera que guérir une harquebusade au coeur, au foye, vessie, ratte, estomach, intestins, et grands vaisseaux, sont les jouets et exercires les plus familiers du sien; qui comme les viels legionaires de Cesar, ne et informoient jamais du nombre de l'ennemy, mais seulement ou estoit l'ennemy, ou si la breche estoit raisonable pour s'y donner, mais seulement, en quel quartier de la ville estoit.

"Bref, chacun se persuade avoir un Hippocrate, Aesculape, Podalire, ou machaon."

are denominated gastro-enteric; that all internal applications except the most bland mucilages are, in general, to be avoided until the inflammation has subsided, a result to be brought about by bleeding, general or local, but especially local, by leeches on the abdomen. Purgatives are irritants which must not be used until the inflammatory stage is gone by; even mild soups or broths are highly injurious, except where all the active symptoms are subsided. This doctrine, both as to its pathology and its therapeutical part, is so similar to that of the illustrious Baglivi, that the one may be regarded as the very mould from which the other is derived. Certainly the latter has the advantage of great perspicuity, and is infinitely fascinating and seductive by its unity and general applicability. If it should prevail, it might be regarded as one other among the thousand evidences we have of the difficulty of reasoning correctly in medicine, and of the necessity there is for a conjoint exertion of the powers which are undoubtedly possessed by medical men, to reform and redintegrate the scattered and dilapidated materials of the temple.

It will be perceived that we have paid but little attention, except to those chapters of Baglivi, which have a more immediate relation to the pathology of fevers. It was not our intention to examine at this time his physiological doctrines in the treatise de fibra motrice. His singular ideas concerning the agency of the membranes of the brain in the production of animal movements may come before us at another time. For the present we have sufficiently shown that his pathological views of fever were at least very similar to those of Dr. Broussais, and probably, the real sources from whence they are derived, though, in the hands of Dr. Broussais, they have been much augmented, systematized, and happily illustrated.

Article XIV.—"*Wilhelmi Ten Rhyne, M. D. Transisalano. Daventriensis, Dissertatio de Arthritide: Mantissa Schematica: De Acupunctura, et Orationes tres I. De Chemiæ ac Botanicæ Antiquitate et dignitate. II. De Physiognomia. III. De Monstris. Lond. Impensis R. Chiswell*, 1689. 8vo."

This is the title of a work which we believe to be very rare, because we think no edition has been printed, except the first one, one hundred and thirty-six years ago, and because few of the late

writers on acupuncture make any mention of it, while those who do so, seem to derive their knowledge of it from VICQ D'AZYR. Mr. SARLANDRIERE, in his late work,* has only mentioned TEN RHYNE's name once, and then very slightly, in connexion with that of KEMPFER, though TEN RHYNE's account of acupuncture is abundantly clear and definite, and though he undoubtedly deserves the credit of having first laid the operation before the medical profession in Europe, to whom, as he justly says, it was "hactenus incognita."

It is not our intention to examine at length, in the present article, the whole contents of TEN RHYNE's volume, but shall limit ourselves to what relates immediately to acupuncturation. The propriety of republishing a copy of TEN RHYNE's aphorisms is not the less manifest because Mr. SARLANDRIERE has given us a whole Chinese tract on moxa and acupuncture, which was procured and translated by a learned Hollander, who resided eighteen years in Japan; at what exact period we are not informed, but we perceive he was there in 1782. The Chinese treatise is written by KANRA-FATJN-MOTO-SADA, who tells us in the proemium, that

"In Nengo-ky-tjo, (from the year 1596 to 1614,) a certain Nagata Tokfon, an able physician in the province of Kay, studied the art under a skilful Corean or Chinese Doctor, KINTOKFO, and in his turn, taught it to the physician TANAKA FISIN, in order that every body might obtain a knowledge of it. It was, however, kept secret from the public, and was not communicated, except to some individuals who were thought fit to practice it.

"As I was desirous of obtaining information, and as it is impossible to acquire a perfect knowledge of this art by oral instruction or the mere use of books, I applied myself to the study of it at Mijaco under the famous physician FARA TAYAN, and had the happiness to succeed completely in the whole matter, and have been fortunate enough to cure by my practice, a number of sick persons."

We hope none of our readers will feel their consciences pricked by the following display of motives in an unlettered and semi-barbarous Japanese; motives which might do honour to the most polished physician of any age or country.

"Considering," says he, "that by keeping it secret, it might be compared to gold hidden in the mine, or to precious gems buried in the depth of the sea, so that no body could enjoy the use of them, and believing, moreover, that it is the duty of a philanthropic physician

* Memoires Sur l'electropuncture. Paris, 1825. 8vo.

or surgeon to make public his knowledge, when it may contribute to preserve the life of his neighbour, I resolved to set down in this manner every thing important and curious in the practice of medicine, relative to acupuncture and moxa, in order that they may be known and applied to the benefit of the sick, in such cases as are proper."

The medical public is much indebted to Mr. SARLANDRIERE for his zeal in procuring and publishing this manuscript, and for the three representations of the TSOE BOSI, which are found in his work. TEN RHYNE also gives us four representations of these figures, with the places marked out for acupuncture and moxa, but they are neither coloured or numbered.

The books of Medical Biography which we have consulted, contain no account of TEN RHYNE's life. We learn from his work, that he was employed in the medical service of the Dutch East India Company, and resided at Batavia, from whence his epistle, dedicatory, is dated January 30, 1679.

He went with a Dutch Mission to Japan in we know not what capacity, and resided while in that country, at Nangasaki, busily employed in collecting information concerning medicine principally.

The treatise de Arthritide is not at all interesting, except for his history of the use of moxa, and for a close similarity which is traceable between his ideas concerning what he calls flatus, which he supposed the offending cause in rheumatism, and some of the speculations of the French pathologists on the operation of electricity in the production of morbid affections. We, by no means, intend to intimate that he knew any thing concerning electricity and galvanism, but only that making use of another very active agent, his explanations are not widely different from those of our own era.

TEN RHYNE considers all rheumatic pain as arising from flatus,* accumulated in any given part. This flatus in his hands is not very different from the spirits of the ancients, or the nervous fluid, or electro galvanic movements of the moderns. If the flatus be generated in immoderate quantity, or improperly detained in any part, it produces tension and pain by its attempts to fly off—it puts every thing on the stretch. Acupuncture allows the flatus to escape, and thus dissipates in a moment, the causes of distress.

* Ego vero præeunte medicorum antistite, extremum clauserim agmen, Arthritidem a solis Flatibus, &c.—p. 15.

In the proemium to the Mantissa, he informs us that

"In all painful affections of external parts which have continued for some length of time, the Chinese and Japanese make use of the remedies called acupuncture and moxa, and have certain rules of art and precepts, according to which they mark out the places which are to be burnt with moxa or punctured with the needle."—*Proemium.*

"These two (inustion and acupuncture) are primary operations among the Chinese and Japanese, by means of which they cure all pains. If they (the Japanese especially) were deprived of these they would be miserable, without hope of relief to the sick—for both these Nations execrate blood-letting, believing that in this operation both the healthy and diseased blood flows out together, in consequence of which the term of life is abbreviated."—*Proem.*

The Japanese Physicians keep in the vestibules of their houses wooden human figures, on which the places which may be acupunctured or burned with moxa, are neatly painted; and the author presents us with three copperplate engravings, representing these localities, the original of which he procured at some expense while at Nangasachi, by the assistance of the Japanese Dr. Iwananga Zoko. These figures, which are not badly drawn, are covered with dots, indicating the places to be selected in the two operations.

In his epilogue (he has an epilogue and a corollary to the treatise de acupunctura) he commends acupunctura *Europaeis incognita* to his medical brethren, and assures that it is of so much consequence to the Japanese, that it is become a particular profession; those who exercise it, being called *Farritatte*, that is, acupuncturers; but if the use of moxa, as is common, be a part of the professional acquirement, they are called *Farrawyts tensas*. The former are called Xinkieu by the Chinese.

We shall now proceed to translate the whole treatise de acupunctura, which is reduced to the form of aphorisms, accompanied and explained by notes. For greater convenience we shall number them, which Ten Rhyne neglected to do.

1st.—"The needle ought to be long, (*p*) sharp, (*q*) round, (*r*) with a rough handle; it should be made of gold, (*s*) rarely of silver, and never of any other metal."

(*t*) "In order that it may sometimes penetrate deeply, (*q*) enter easily, (*r*) and be turned or rotated with facility, which is easily affected with a round needle with a rough handle. (*s*) The best are

made in the Island of Corea, and may be procured of excellent quality at Kio, or Miaco, the emporium of Japan. I do not think any particular skill is necessary for the fabrication of the needle, but probably there may be some secret in regard to giving it a proper temper."

2nd.—"The needle is to be introduced into the part affected, either by simply piercing it, or by rotating it between the thumb and fore-finger, or by slight strokes of the hammer, (*t*) according to the nature of the disease, (*u*) or the constitution of the part (*w*) to be punctured."

(*t*) "The hammer is of ivory, ebony, or any hard wood; its head is either smooth on both sides, or has small indentations, in which the top of the needle may be received, (when pressure is necessary;) its handle is hollowed out to serve as a case for the needle, which is secured therein with a silken string, or by a ring. (*u*) If the flatus be deep seated, it must penetrate deeper and e contra. (*w*) A hard skin is not so easily penetrated as a soft one; nervous parts are not to be so deeply punctured as fleshy ones.

3d.—"The needle must be *gently* pressed into the affected place, (*x*) except in some head affections, in which it should be forced even into the cranium; also in some affections of the wound (*y*) in which the uterus is to be pierced."

(*x*) "Unless circumstances forbid, it is generally to be inserted about the depth of an inch, (lati digiti) (*y*) particularly when the fœtus is restless and the mother very weak.

4th.—"The needle should be left in the part during the space of thirty respirations, (*z*) if the patient bears it well; if otherwise, it should be removed and re-inserted three, four, and even five or six times, if the patient bears it conveniently and the disease be obstinate."

(*z*) "This includes both inspiration and expiration, for this is the mode of computing time among the Chinese and Japanese physicians.

5th.—"This operation should be performed while the patient has an empty stomach."

6th.—"The puncture should be deeper if the disease be severer."

7th.—"Aged persons should be punctured deeper than young ones; adults deeper than youths."

8th.—"Such as are fat and fleshy, puncture deeper, and the contrary with such as are delicate."

9th.—"Acupuncture is most useful in affections of the upper and lower portions of the abdomen."

10th.—"Puncture the head when afflicted with cephalalgia, sopor, epilepsy, ophthalmia, and other infirmities arising from malign flatus."

11th.—"Puncture the abdomen, (*a*) in colic pain, dysentery, anorexia, hysteric affections, erupula, in pains of the limbs and belly."

(*a*) "Remarks on BONTIUS' account of acupuncture, lib. 5. Hist. Nat. we have not copied them.

"12th.—"Puncture the gravid uterus when the fœtus moves so violently before the full time as to give the mother dreadful pain, which often endangers her life. Puncture even the fœtus himself with a long and sharp needle, so that being frightened with the pricking he may desist from such great and dangerous movements."

13th.—"Nervous (*b*) places should be punctured less; (*c*) fleshy ones more deeply."

(*b*) "To wit, such as have any important nerves, tendons, or nervous ligaments immediately subjacent. (*c*) Because, in nervous parts, acupuncture is not only very painful but very dangerous, as taught in many places by PARE, HILDANUS and others. On this account the Japanese use the needle in such places with the greatest circumspectness, scarcely pushing it through the skin, so that that common author of pain, (he means flatus) may be drawn out."

14th.—"Acupuncture should always be resorted to in the following affections, (according to my interpreter, MOTTONGI SODAIO,) videlicit, headach, vertigo, lippitudo, and suffusion of the eyes; apoplexy, cynic spasm, emprosthotonos, opisthotonos, καὶ τόνος. in convulsions of the nerves; epilepsy, gravedo, and rheumatism; intermittent fevers, as well as continued ones; hypochondriac melancholy; intestinal worms, and pain arising from them; diarrhœa and dysentery; colica passio particularly, and other affections of the bowels dependant on flatus; spontaneous lassitude, also arising from flatus; (*d*) swelled testicle; (*e*) arthitis; (*f*) and, finally, gonorrhœa."

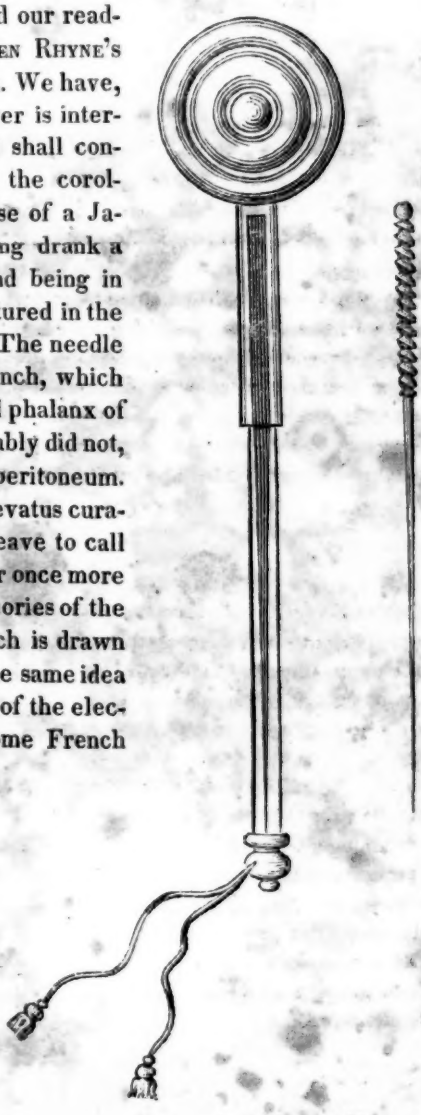
(*d*) Is a comparison of this with the Hippocratic theory; (*e*) describes a swelling of the testicle, which is very common among the Japanese, who call it *sinki*. The testicle acquires an enormous size, so as to interfere with walking. It is cured by acupuncture. He says it is a morbus peculiaris; evidently not hydrocele or hernia: hernia humoralis may be the disease referred to. (*f*) Is not important.

15th.—"In the foregoing complaints, puncture the parts in which disease commenced. This may be learned from the annexed schemata, but more exactly from experience."

16th.—"Such as are weak, may be punctured in the abdomen; such as are strong, in the back."

17th.—"When the pulse is scarcely or with difficulty perceptible, let the arms be punctured near the veins."

We have now presented our readers with the whole of Ten Rhyne's Aphorisms de Acupunctura. We have, also, before given whatever is interesting in his epilogue, and shall conclude in mentioning that the corollary contains merely a case of a Japanese soldier, who, having drank a quantity of cold water, and being in violent pain, was acupunctured in the left side of the abdomen. The needle was inserted a Japanese inch, which is measured by the second phalanx of the middle finger; it probably did not, therefore, penetrate the peritoneum. The author says, "hinc levatus curatusque evasit." We beg leave to call the attention of the reader once more to the similitude of the theories of the flatus of Ten Rhyne, which is drawn off by acupuncture, and the same idea concerning the dissipation of the electric fluid, as taught by some French writers.



Note.—We have subjoined an accurate copy of the hammer and needle represented in Ten Rhyne's book. A reference to his description will be sufficient for all purposes of explanation.

QUARTERLY SUMMARY

OF IMPROVEMENTS IN MEDICINE AND SURGERY.

In framing our first summary of improvements in the medical and surgical sciences, it has been our aim to make it as useful to the profession as possible, and with this intention, have admitted some articles, which, though of an early date in the past year, and familiar to many, are, nevertheless, of considerable interest, and entirely new to some of our subscribers.

Our German and Italian journals, not having reached us in time for the present number, we are unable to offer any thing of much value, in relation to the improvements in our profession in Germany and Italy. Our stock, also, of French medical news, though respectable, is not, owing to circumstances not under our control, as ample as we could have desired; but we have every reason to believe, from existing arrangement, that we need not apprehend similar difficulties in our subsequent numbers.

ANATOMY.

1. *The Skin.*—The late Mr. Chevalier, in his "*Lectures on the general structure of the human body, and on the anatomy and functions of the skin,*" has some observations of interest. On examining the cuticle, with a microscope magnifying one hundred and forty times, on a ground of dark-blue paper, he was unable to discover any pores, but those which were evidently passages to the hairs. In seeing even these, he has been more successful than Beclard. (Additions to Bichat. Art. Epid. Syst.) The under surface, however, was formed into an infinite number of what he calls *velamina*, regularly arranged, of exquisite tenuity, presenting a follicular appearance, and separated from each other by intersecting bands of a thicker substance. In these follicular cavities, according to Mr. Chevalier, are contained minute villi, or *penicilli*, supported upon a fine, vascular network, covering the surface of the cutis. From these, he supposes the perspiration to be effused, and to traverse the substance of the cuticle, which is spongy, to admit of this process.

The rete mucosum, he acknowledges to have an existence in the white as well as in the black subject; and states that he has repeatedly separated it.

Of sebaceous glands, he describes two sets; one immediately beneath, and closely adherent to, the inner surface of the cuticle; the other beneath the rete mucosum. Mr. CHEVALIER, in this, differs materially from the latest writers, who consider these organs as mere follicles, and not glands. Mr. PLUMBE, in a later work on the same subject, expresses a belief, that what Mr. CHEVALIER took for glands, was a series of little masses of sebaceous mucus, adhering to, and filling up, the orifices of the *sebaceous follicles*.

2. *Malformation of the Heart.*—Doctors VAN HALL and VROLIK, of Amsterdam, have published an instance, in which an infant, possessing all the usual attributes of a "*blue child*," died at the end of the second year. The right ventricle was greatly increased in thickness, which had enabled it to overcome the following very singular impediments. The large and more conspicuous artery, which resembled the pulmonary, was closed at its origin, by a tough, strong membrane, yet retaining marks, however, of the tricuspid valves. It proceeded, then, to the arch of the aorta, sending two branches, in its course, to the lungs. These viscera, could thus be only supplied with blood, in the retrograde direction, from the arch of the aorta. Besides this obstructed *pulmonary artery and ductus arteriosus* in one, there was another tube, less conspicuous than the former, arising from the right ventricle, and proceeding directly to the aorta, along the one previously described. The lungs were small, and received but little blood. The general symptoms of a *blue child*, were obviously explained, by the mixture of arterial and venous blood in the aorta.

3. *Mummy.*—We concluded that we could, with most propriety, notice, under this head, the curious description of a mummy, given by Dr. A. B. GRANVILLE, to the Royal Society. We have heard, before now, that *all* our modern bandages were found on the ancient remains; and we have heard this particularly predicated of one recently brought to this city, which, however, was not entirely stript. That the Egyptians attained high perfection in the art of bandaging, is evident enough; but we object to the extravagant language used in speaking of them. Those who have examined them, have not enumerated all the modern bandages; and we are not to suppose that dressings, invented for particular application to disease and injury, should be all employed for the mere purpose of enveloping a mummy. Of some of these, it is impossible. Thus, have they found that THILLAYE's bandage for the *amputated* shoulder-joint, is, in fact, any amputation bandage? Have they found the clavicle apparatus of BRASDOR, DESAULT, BOYER, CHAPEL, ASTLEY COOPER, &c. &c., or the fractured jaw roller of our countryman, Dr. RHEA BARTON? In short, the statement is an absurd one.

The viscera of this mummy had been torn to pieces, and partially extracted through the anus; which had been enlarged by several incisions. The front of the abdomen was not opened, as described by HERODOTUS. Dr. GRANVILLE was able to dissect, and recognise, with accuracy, portions of the stomach, the spleen, the left kidney, capsula renalis, and ureter; the

three last exhibiting *diseased adhesions;* an adhesion of the stomach to the diaphragm, the uterus and its appendages, part of the cœcum, the appendicula vermiformis, and several other fragments of the intestines; several large pieces of the peritoneum; the gall-bladder, and nearly all the muscles of the pelvis; the latter in high preservation. Myrrh, resin, bitumen, and argillaceous earth, were thrust up the dilated anus, in large fragments.

The pelvis is described as an uncommonly fine one. The head exactly resembled that of a fine Georgian female, given by Blumenback, (Deca 3tia craniorum.) as one of the best specimens of the Caucasian race.

We avoid more detail, from the want of room; but we thought this completion of a dissection, began by the priests of three thousand years ago, might possess some interest for our anatomical readers.

PHYSIOLOGY.

4. *Acid in the human stomach.*—Dr. Robert James Graves has published, in the Dublin Transactions, a series of chemical experiments, made on the highly acid fluid discharged by a patient, in a violent periodical vomiting. It was so acrimonious as to excoriate the mouth and throat. Dr. Graves proved, to his own satisfaction, that this was owing to the presence of *lactic acid.* This agrees with the observations of Chevreuil, but by no means so with the subsequent ones of Dr. Prout, in the Philosophical Transactions; who, by a careful series of observations, conceives that he has proved it to be the *muriatic.* We thus see our old uncertainty of the nature of this substance, far from promising a speedy disappearance. Are we not at liberty to infer, that different acids are produced in different cases, particularly in disease?

5. *Influence of the par vagum in digestion.*—MM. Breschet and Milne Edwards have published a memoir, in the "*Archines Generales,*" in which they consider themselves as having proved, in a satisfactory manner, the propositions which we subjoin. We have not, at present, time or space to enlarge upon this curious, important, and, it appears, still unsettled question. Our readers will observe, that the results given, differ materially from those of Dr. Wilson Philip, who believed that the section of these nerves *vitiated the secretions* of the stomach, while it suffered the *muscular action still to go on.*

"1. That the division of the nerves of the eighth pair, considerably retards the transformation of the aliments into chyme, without arresting it.

"2. That this retardation of the digestive process depends upon deficient action of the muscular fibres of the stomach.

"3. That the vomitings which often follow the section of these nerves, are owing to paralysis of the muscular fibres of the œsophagus.

"4. That the re-establishment of the digestive process, after the division of these nerves, by means of electricity or galvanism, depends not upon

the chemical action of this agent, but is owing to its exciting the movements of the muscular coats of the stomach, necessary to the renewal of the surface of the alimentary bolus, and to the placing successively, all the parts composing it, in contact with the parietes of this viscus.

"5. That, by means of a mechanical irritation of the inferior extremity of the divided nerve, similar effects to those produced by galvanism, are occasioned, but somewhat less marked.

"6. Finally, that the chief function of the pneumogastric nerves, considered only as forming a part of the digestive apparatus, is to preside over the movements of the stomach: movements which accelerate digestion, by facilitating the contact of the gastric juice with the different parts of the alimentary bolus.

Dr. Wilson Philip, in reply to Messrs. Breschet and Edwards, as above.

We have inserted, above, the conclusions of these last experimenters. Dr. PHILIP comments on them thus, in the October number of Johnson's Medico Chirurgical Journal.

"Conclusion 1. This operation, certainly, can have no effect in preventing the action of the gastric fluid, secreted before the operation, and which has accumulated in the stomach. But, from the facts, that, the longer the animal lives after the operation, the less undigested food is found in its stomach, and that, if it survives long, the undigested food alone remains in it—points we have ascertained by many trials, and from experiments made on the newly dead animal, which are related in my treatise on the vital functions, it appears that the secretion of gastric fluid is immediately arrested by this operation.

"2. In our experiments, we always found that the stomach discharged its digested contents into the intestine, as readily after as before the operation.

"3. We always found, that the function of the œsophagus was as well performed after, as before, the division of the nerves, the animal continuing to swallow with the same ease as in health.

"4. I have just had occasion to remark that we always found that the stomach discharged its digested contents into the intestine, after, as before the operation. Indeed, if the stomach and bowels be wholly removed, even in the newly dead animal, and thus, all their nervous connexions destroyed, their peristaltic motions continue for some time unimpaired."

To the fifth conclusion of MM. BRESCHET and EDWARDS, Dr. PHILIP replies, that M. CUTLER repeated "the experiment from which this inference is made," on a rabbit, for eight hours; making "the mechanical irritation, employed by" those gentlemen; and that the food was afterwards examined by Dr. PHILIP and M. BRODIE, and found "just in the state in which it was swallowed."

6. Dr. PHILIP continues, "The reply to this statement is made in what is

said of the second and fourth statements."—*Johnson's Med. Chirurgical Journal, October.*

6. *Effect of disease in the nerve of the fifth pair, in abolishing the exercise of the senses in one-half of the head.*—M. SERRES, who has gained himself so much credit, for his profound researches into the comparative anatomy of the brain, reviewed in our present number, has published a singular case, in the Bulletin de la Société Philomath.; in which the above singular phenomenon took place.

A young man died of epilepsy, under the care of M. SERRES. In addition to his epileptic fits, he had, first, *inflammation* in his right eye, terminating in *opacity of the cornea*, and destruction of sight. The eye, eye-lid, nostril, and one-half of the tongue, were successively (the order not given,) deprived of sensibility. Next, a *scorbutic affection* laid bare the [roots of the] teeth, on the right side. Finally, complete deafness took place in the same side. The whole process occupied ten or eleven months. The muscular powers remained unaltered.

The ganglion of the fifth pair on the right side, was found swollen, of a yellowish colour, and less vascular than usual. The nerve was also changed into a similar substance, from the ganglion to its origin, at the side of the *pons varolii*, and fibres of the same texture were seen penetrating the pons.

The dissection was made in presence of MAGENDIE, SERRES, LISFRANC, GEORGET, and several students.

Our readers, probably, have all heard, by this time, of the startling experiments of MAGENDIE, directed to call in question the commonly alleged functions of the *optic, olfactory and acoustic nerves.* M. MAGENDIE had shown, that perceptions of pungent odours were demonstrated in birds, in which the first pair of nerves was divided. This could only be attributed to the branches of the fifth pair. Within the last year, experiments have been made, which go to show, that the integrity of the fifth pair is necessary to the complete performance of either smell, sight, or hearing. We have, at present, neither space nor materials to enlarge further.

7. *Structure of the nerves.*—M. BOGROS has succeeded not only in injecting, with quicksilver, the neurilematic tubes, which contain the nervous medulla, but in demonstrating that the medullary matter itself possesses a tubular arrangement. Thus, by inserting the point of his injecting tube into the centre of a nervous fibril, after having corroded and removed the neurilema, with nitric acid, he was able to pass the quicksilver through all the minute anastomosing fibres of which the nerve is composed. These unite their cavities at the places of anastomoses. Ganglions were injected, and then traversed, by the fluid metal; the latter filling other nervous fibres after passing through them. M. BOGROS passed mercury, from the inferior cervical nerve, into the cardiac plexus, through ganglions of the great sympathetic, through the ganglions at the roots of the spinal nerves, &c. In these last, the mercury entered the veins; insinuating itself, first, into the

minute venous plexus, which lies between the proper substance of the ganglion, and the coat which they derive from the dura mater. It thus ran, in one instance, as far as the heart; but was never found in the arteries or lymphatics. After leaving these ganglions, it passed into the roots of the nerves, and then immediately escaped into the spinal cavity; whether through ruptures or natural openings, could not be ascertained.

From the little we have seen of this discovery, we should presume these cavities to be similar to the ventricles of the brain.

8. *Semidecussation of the optic nerves.*—Dr. Andrew Crawford, of Winchester, has published, in the London Medical and Physical Journal, an account of a case, confirming the observations previously published by Dr. Wollaston, on the effects of a palsy of the optic nerve, above its semidecussation. A female had a slight hemiplegic attack, on the *left* side, accompanied with total loss of sight in the *right* half of each retina. Objects held before her, were distinctly seen on the right side of a middle line, but were entirely invisible on the left.

The injury having been sustained by the *right* side of the brain, may be presumed to have affected the nerve on the right side, above its semidecussation. We thus have paralysis of the *left* side, accompanied by injury of the *right* half of the apparatus of vision. But, instead of losing the sight of the *right eye*, that of the *right half of each retina* was destroyed; thus, by the inversion of the figures of objects on the retina, preventing the vision of all objects on the *left* side of the middle line of the eye.

9. *Sensibility to touch, of the nerves of vision.*—M. Magendie, at a recent meeting of the Institute, stated verbally, that he had touched the retina, in three cases, without producing any pain. He found, by repeated experiments on animals, that this part may be pressed, pricked, or torn, without pain being evinced.—*Lond. Med. and Phys. Journal.*

10. *Function of the portio dura.*—Mr. Charles Billard has published the case of a woman treated in the hospital at Angers, for consumption and for a large scrofulous ulcer of the right parotid gland, and its vicinity. A palsy of all the moveable parts of the right side of the face ensued; and, after death, an inch (French) of the trunk of the portio dura was found destroyed; extending from the stylo-mastoid foramen, to the top of the masseter muscle.

The nature, extent and peculiarities of the paralysis are not given; so that we cannot judge of the accordance of this case with the principles laid down in such a luminous manner, by Mr. Charles Bell. The writer should have informed us whether the paralysis was total, or confined to the motions associated with respiration.—*Jour. Med. de la Gironde.*

11. *Functions of the Anterior and Posterior halves of the Spinal Marrow, and of the corresponding Roots of the Spinal Nerves.*—M. Bellingeri, whose work on the Spinal marrow was recently reviewed in our city, has read a paper to the *Academy of Sciences of Turin*, in which he considers him-

self as having proved, by experiment, that the posterior roots of the spinal nerves relate to the functions of *sensation* and the extension of the limbs, and the anterior to flexion of the limbs only. When the posterior roots were divided, *sensation* in the limb supplied by them, *was lost*, and the part fell into a state of permanent *flexion*; to which it constantly returned, when interrupted by the hand. When the anterior roots were divided, permanent *extension* was produced; which recurred in the same manner, when interrupted. When the posterior half of the medulla was divided in the loins, but above the plexus of nerves which goes to the posterior extremities, extending the incision to the gray matter, in the centre, and from one lateral fissure to the other, the motions of *extension* in the hind legs were lost, but the sensibility continued. This last result our author attributes to the circumstance of the gray matter in the centre of the medulla remaining untouched: as he supposes this to be the seat of sensibility.

The experiments were made on lambs.

Our readers will observe that these results, here described, are not exactly the same which are said to have been obtained by MAGENDIE, in similar trials. And, in fact, to our comprehension, this is precisely the most bewildering part of physiology.—*Bulletin des Sciences Med., par Ferussac.*

12. *Non-communication between the Circulation of the Fœtus and the Parent.* MM. PREVOST and DUMAS have found the globules of the chick, extracted from the egg, to differ in size and form, from those of the adult animal. Encouraged by this discovery, M. PREVOST repeated his microscopic observations upon the goat. He here found the globules of the fœtus *twice the size* of those of the adult. Of course, there can be no mixture of such dissimilar fluids in the circulation. If the analogy extend to man, it solves a question which has given rise to much discussion.—*Bulletin des Sc. Med.*

13. *Dissection of a Hydrocephalic Head.*—Dr. SPURZHEIM has dissected, in company with Messrs. MORGAN and KEY, surgeons to Guy's hospital, London, the head of a man of thirty years of age, named Cardinal, who is figured in Dr. SPURZHEIM's Physiognomical System, (pl. 5, fig. 2.) as an example of enlargement of the skull from hydrocephalus. Messrs. MORGAN and KEY found about *nine pints* of water between the brain and dura mater, and *one pint* in the lateral ventricles. Dr. SPURZHEIM was then invited to assist. The brain lay in the bottom of a cranium, which had measured in 1815, over the integuments, thirty-three inches in its greatest circumference, twenty-four and a half inches from ear to ear, over the top, and twenty-three and a half inches from the root of the nose to the back of the neck. The *corpus callosum* was split along its raphe, leaving the two halves entire on the sides of a great opening, by which the ventricles communicated with the space between the brain and the dura mater. The lateral ventricles were most distended in the posterior lobes; and, on the right side, several convolutions were unfolded into a membranous form, in the manner described by Dr. SPURZHEIM. Those of the left presented the

usual appearance. The convolutions which usually lie in contact with each side of the falx, were turned so as to face upwards.

Anterior and middle lobes of the brain, nearly natural; olfactory nerves large; optic small; lower half of the corpora quadrigemina small; cerebellum flattened; its cineritious substance very dark.

The brain weighed two pounds fourteen and a half ounces.

The man, when described by Dr. SPURZHEIM, in his work, could read and write tolerably well, and manifested all the natural sentiments and intellectual faculties.—*Quarterly Phrenological Journal, No. 7.*

14. *Alterations in the saliva from the use of Mercury.*—Dr. BOSTOCK has analyzed the saliva of a patient labouring under a mercurial salivation. It appears that this fluid is chiefly changed, in being converted from a mucous to a serous or albuminous nature. The *exhalations* of BICHAT, *transudations* of Dr. BOSTOCK, are albuminous, and appear to differ from the serum of the blood, mainly in the *proportion* of the albumen they contain. The salivary glands, then, were approximated, by the mercurial stimulus, to the condition of exhalants, instead of an apparatus of a more elaborate secretion.

Dr. BOSTOCK, with the most delicate tests, did not find any mercury in the saliva.

In two cases of inflammation of the stomach, a similar change was found in the mucus ejected by vomiting.

In a case of catarrh, different results were met with; but the account before us is too abridged to enable us to give a satisfactory statement of the difficulty.—*Lond. Med. and Phys. Journal, October.*

15. *Inflammation of Nerves.*—M. MARTINET, in the Revue Médicale, has published a number of cases to prove, that in *neuralgic* affections, (tic douloureux,) the nerve or neurilema is seldom inflamed or changed in an organic manner. He has given ten strongly marked cases of nervous inflammation. In every case where dissection was performed, and the parts brought into view, more or less redness of the nerves was found; evidently dependent on injection of the vessels of the neurilema. Partial ecchymoses, or sero-sanguineous infiltrations were also generally present; and, in some instances, traces of suppuration. Generally, the nerves were augmented in volume; rarely softened in texture. The symptoms were more or less extensive diminution of their functions, pain, either of a lancinating or benumbing kind, *never suddenly intermittent*, but generally continued, with occasional exacerbations and remissions.

The treatment, of course, is antiphlogistic.

The suddenly intermitting and recurring pains, called tic douloureux, M. MARTINET considers as not inflammatory.—*Medico Chir. Journal.*

16. *Circulation of the blood.*—Dr. BARRY, in a memoir on the motion of the blood in the veins, has come to the conclusion that the blood in those vessels, and the fluids in the lymphatics, follow the dilatation of the cavities of the thorax in inspiration, on the principle of vacuum. The subject is in the

hands of a committee of the Royal Academy of Sciences of Paris.—*Lon. Med. Rep. Sept.* 1825.

PATHOLOGY.

17. *Pathology of tetanus.*—Mr. Joseph Swan, of London, has lately published "An essay on Tetanus, founded on cases and experiments," in which he endeavours to prove that this disease depends on an inflammation of the ganglia of the sympathetic nerves. He inflicted severe wounds on animals, or administered to them the nux vomica, and on killing them, found these ganglia in a state of inflammation. He likewise found the same parts similarly affected in several individuals who died of tetanus. He regards the affection of the brain and spinal marrow as secondary, and as produced by the irritation above alluded to. Whether this new *theory* will prove correct or not, it is difficult now to say. Sure it is, that in a practical point of view, we gain little by it.

18. *Boiling a woman alive.*—M. Teallier has inserted the following case in a Parisian journal. Madame L., aged twenty-eight years, consulted a quack, for a chronic rheumatism. The man of art directed her to enter a warm bath, and raise its heat gradually to near the boiling point. This sagacious advice was complied with. The poor lady, after the process had endured for some time, became insensible; her skin became black and bloated; convulsions, grinding of the teeth, and foaming at the mouth, soon followed. M. Teallier relieved these cerebral symptoms by a free bleeding, and the woman recovered her senses. Pain was then felt in the epigastrium, and was removed by forty leeches. Next day it recurred round the umbilicus, and here gave way to twenty leeches. She was not long in recovering her health; but, six weeks after, the whole epidermis separated from her body, without the least pain.

We consider this a very curious case. Our readers will probably think of the "high steam practice" of the State of New York. But it allows us to ask, whether this does not explain some of the cases of apoplexy from heat, in our summer months; and whether these may not arise from the general application of heat to the whole body, as well as to the head in particular.—*Journal Med. de la Gironde.*

19. *Tumour of the rectum.*—Dr. A. L. Peirson, of Salem, Mass., has inserted in the New York Medical and Physical Journal, for September, 1825, a case of a gentleman, affected four years with symptoms attributed to hæmorrhoids. There were pain in the back, difficulty of passing his stools, and a discharge of blood per anum, sometimes very profuse, and followed by relief; as well as occasional attacks of severe pain and constipation, which were relieved by opium and powerful cathartics. In April last, he died, having had no stool for the last twelve days. His stomach had

never become irritable, and his appetite and capacity to take food remained to the last.

Dissection, eighteen hours after death—Abdomen very tumid; a large amount of flatus; intestines betraying "a few streaks of inflammatory action," [redness.] The colon prodigiously enlarged, being equal in size, throughout its whole length, to the stomach; adherent to the liver, omentum, and stomach. The internal surface of the cæcum and colon, natural. In the rectum, a mass of soft, fungous excrescences, resembling papillæ, was found completely obstructing the cavity, as with a sponge; and extending from about two inches above the anus, for four inches higher up. If we understand the author correctly, this was a "morbid alteration of structure" in the substance of the rectum, perhaps its lining membrane. (In our copy of the number, the plate was omitted.) Dr. P. remarks, that it was singular that there should be so little inflammatory action and sympathetic derangement of the stomach.—*N. Y. Med. & Phys. Journal.*

20. *Epidemic erysipelatous fever.*—Dr. FOUNTAIN has published an account of an epidemic which prevailed in West-Chester and Putnam Counties, New York; in which erysipelas on different parts of the skin and in the fauces prevailed at the same time, frequently to the destruction of life. He derived his best success from emetics, sudorifics, and mild laxatives; but was not unfrequently obliged, from the long duration of the disease, (as far as the tenth or twelfth day,) to have recourse to ammonia and oil of turpentine, as internal stimulants. The whole paper, with some quaintnesses, contains much interesting matter; and must be valuable to any one who studies the epidemics of our country.—*Ibid.*

21. *Asthma from omitting the use of opium.*—This is said to take place in some parts of Hindostan, with extreme breathlessness and all the other symptoms of an asthmatic paroxysm, and to such a degree, that, if not removed by the timely exhibition of a sufficient amount of opium, it proves fatal in a few hours. Our authority is Mr. HENDERSON, in the Edinburgh Medical and Surgical Journal, for July.

22. *Mean duration of intermittent fever.*—M. BAILLY has read a memoir on this subject, before the Royal Academy of Sciences. From a great number of observations, collected in different climates, such as Rome, Montpelier, Lyons, and Canada, he assigns a mean duration to this disease of *fourteen days.*—*Lon. Med. & Phys. Journal, Sept.*

23. *Hydrophobia.*—Professor ROSSI has published a case, in which a young man was bitten by a cat, which afterwards had all the symptoms of rabies. Two of the wounds were cauterized twice, and a third once,—the patient directed to take vinegar and the genista luteo-tinctoria, internally; of the last of which he took a glassful night and morning. The sublingual glands were carefully examined, that any change in them might be detected.

In about six weeks, the patient began to be melancholy, to seek for solitude, and to weep violently. His sleep was disturbed by frightful dreams,

his appetite failed, and he disliked his wine, of which he had before been very fond. He afterwards said, that his aversion to water was at that time equally strong. His eyes glistened, his face was red, and his mouth was always full of saliva. The left sublingual gland was larger than the right; and an itching was felt in the part bitten.

The sublingual glands were each submitted to three successive severe applications of the actual cautery. This produced much fever and distress, and required much attention. The patient ultimately recovered his health entirely.—*Ibid.*

Our readers will judge whether this be made out a case of hydrophobia. It does not satisfy us; as we apprehend that all the symptoms described were not only liable, but likely, to be produced by fear.

Vesicles in hydrophobia.—In the same number of the London Medical and Physical Journal, is an account of the dissection of a dog, who died with many of the symptoms of this disease, though not with any horror of water.

On each side of the frænum linguæ, were found longish bodies, "pointed anteriorly, and posteriorly extending to a level with the first molar tooth; the parietes of this swelling, dry and injected, were swollen in the middle, so as to resemble a barley-corn; the posterior extremity had, towards its termination, a small aperture, analogous to the opening of a dilated follicle. This vesicle contained a little yellowish liquid, of a tolerable consistence; within it, two ulcerated spots were observed, covered with a matter, the colour of milk." Other peculiarities were found, which we do not stop to enumerate. These circumstances are related by Mr. Antonio Soares, in the *Annali. Universi. June.*

24. *Hydrophobia.*—In a case published by Dr. Brandreth, the whole nervous system, as far as examined, appears to have been in a state approaching or amounting to inflammation.—*Johnson's Med. Chir. Journal, Oct.*

25. *Idiopathic Fever.*—Two cases are given, in addition to a great number already on record, by M. Martinet, from the practice of Dr. Recamier, at the Hotel Dieu, in which, after death from fever, and, in one instance, with delirium; no marks of disease were found; either in the alimentary canal or the membranes of the brain. Our readers may be aware, that the disciples of Broussais have an answer ready for all statements of this kind; viz.: that the phenomena had disappeared after death, as is the case with erysipelas and other cutaneous eruptions, as well as some observed in the throat.—*Med. Chir. Review, Oct.*

26. *Irritation of the Stomach in Phthisis.*—M. Andral, jr. has found, during five years' observation, at La Charite, under L'Herminier, that, in three cases out of five, patients who died of consumption, exhibited unequivocal marks of disease of the stomach. The læsions were as follows: 1. Vivid injection of the capillaries, especially about the great curvature: not a mere settling of the blood. 2. A *brownish tint*, generally with thickening, and some hardening. 3. Most frequently of all, a softening of the mucus membrane

of the stomach, in various degrees; sometimes accompanied by redness; sometimes by paleness of the part. 4. Ulceration; but this very rarely. 5. Still more rarely, an alteration of texture in the subjacent parts, consisting of thickening, induration, or tubercles. The softening of the mucous membrane, here described, has been recently introduced to notice, by M. Louis, who has proved, to his own satisfaction, as well as that of Broussais' school, generally, that this is an effect of inflammation.—*Ibid.*

27. *Intestinal Calculus.*—M. Torbert, of Paisley, Scotland, has had a case, in which three concretions were found in the colon. During life, there were frequent, thin, watery stools, sometimes yellowish, sometimes whitish. He ate little, and was always thirsty. He had, occasionally, pain in his belly; and, sometimes, felt a hard lump there: was emaciated, and stunted in his growth. It was composed of earthy crystalline matter, intermixed with vegetable fibres. Dr. Duncan, who saw the case, advises against *the use of oats.*

The author of this note has, in his possession, a concretion, from a horse, weighing nearly fourteen pounds; and which appears to be composed principally of the fibres of the animal's oats.

28. *Needles travelling through the human body.*—Drs. Otto and Hecholdt, of Copenhagen, have published the case of a young woman, in which four hundred needles were extracted from different parts of the body!! The symptoms which prevailed, with various intensity, from August, 1807, to December, 1823, were, violent cholic, erysipelas, fever, hysteric fits, followed by fainting, epilepsy, drowsiness, hiccough, delirium, long fits of theatrical recitations from tragic poets, hæmatemesis, constipation, ischuria, retention of urine, purging of a black matter, stupor, and a large carbuncle on the thigh. In January, 1819, a large tumour was opened, below the umbilicus, and a needle extracted. After this, the enormous number we have mentioned above were removed, issuing from all parts of the trunk of the body. The last was removed in December, 1823; and she was living, in July, 1825, at Frederick's Hospital, Copenhagen, in good health.—*Ibid.*

29. *Ophthalmia.*—M. De Kirckhoff has examined minutely the facts and circumstances, as to the contagious, or non-contagious nature of certain species of ophthalmia; and is convinced, "that this ophthalmic contagion is transmitted in no other way, than by the application of the secreted matter from the diseased eye to a healthy eye. I have placed ophthalmic patients in the same beds with the wounded, with venereal patients, &c., and have never seen an ophthalmia result. But I have inoculated different individuals with this matter, and although I merely touched the edges of the lid in such a way, that the matter should not act as a foreign substance in the eye, yet an ophthalmia resulted at the expiration of one or two days."—*Journal Complémentaire, April,* 1825.

PRACTICE OF MEDICINE, THERAPEUTICS, AND MATERIA MEDICA.

30. *Hydrocephalus internus.*—Dr. Fisher relates a case of hydrocephalus cured by mercury, which is interesting in itself, and also as demonstrating the propriety of continuing to exert all the faculties we possess, even in the most hopeless cases. Dr. F.'s patient was a boy, aged seven years. Leeches to the head, and a very free use of calomel, did not prevent him from becoming profoundly comatous, and remaining so during thirteen days, which brought him to the twenty-fifth of the disease. During the existence of this coma, half a drachm of ung. hydrarg. was rubbed on the hypochondria, night and morning. On the thirteenth day of the coma, some effects of the mercury were discerned in the mouth; the pupils began to be sensible to the stimulus of light; the pulse improved; the stools, which were green and "spinachy," assumed a healthier, yellow colour; and the patient, gradually losing the coma, recovered entirely.—*Ed. Med. & Surg. Journal, July*, 1825.

Dr. Davis, in an essay on Meningitis, says, "This disease has been usually called *acute hydrocephalus;* but there is no more reason for calling inflammation of the investing membranes of the brain by such a name, than there would be for calling that of the pleura, acute hydrothorax, or that of the peritoneum, acute ascites." Dr. Davis frequently found one ounce or one ounce and a half of fluid, within the crania of subjects who had no symptom of cerebral affection; while he found as little as three drachms, in such as died of meningitis; even less is found on some occasions. He thinks that inflammation of the membranes may, according to its *degree*, produce effusion of coagulating lymph, of sero-purulent matter, or of serous fluid. Hydrocephalus he regards as a slow disease, and the term should be applied accordingly; while the term Meningitis should be used for the acute affections. This gentleman, who has examined some hundreds of cases, remarks, that he has never seen inflammation of the *brain*.

Extensive bleedings, he thinks, are improper; the relief which follows such, is generally short-lived, and the patient is found worse after each one. Moderate bleedings are beneficial; that which is effected by leeches is the most useful. Calomel is the only internal remedy which has produced any decided effect. He frequently gives it to the amount of half a drachm a day. To a patient not more than ten months old, he gave from four to six grains every third hour, during nine days. He lays much stress on the use of large doses, and regards the treatment as very successful when conducted on this plan.—*Lon. Med. Rep. Jan.* 1825.

31. *Tartar Emetic in Pneumonia.*—The practice of giving large doses of tartar emetic, has been employed by Mr. William Wood, in a case of pneumonia.

This gentleman used the lancet with much good effect. The patient was

aged thirty-four years. After losing thirty ounces of blood, he swallowed thirty grains of tartar emetic, followed by a similar quantity in two hours. No vomiting followed. In six days, he took in all about one hundred and twenty grains; and recovered very well, assisted, as he was, by blisters and purgatives. As to the practical efficacy, this case proves nothing: it proves no more, than that very large doses of this violent emetic may be borne. Mr. Wood's practice was too complicated, (we should say, too judicious,) to afford in this case a fair sample of the unaided powers of tartar emetic. The patient's recovery is, doubtless, due to the *whole treatment*. Mr. Wood found that very large sweats were produced by the medicine, and attributes much of its efficacy to that circumstance, in which he differs from the Italian teachers.—*Ed. Med. & Surg. Journal, July*, 1825.

32. *Anthrax cured by antiphlogistics.*—Dr. Auguste Perrez has lately applied, with the most striking success, the principles of the French physiological school, to the treatment of anthrax. The patient was a lady, thirty-nine years of age, of a sanguine and nervous temperament. She was taken suddenly with acute pain on the middle and superior part of the thigh. When the Doctor saw her, (second day,) the system was violently affected, the pain excruciating; the diseased part about two inches and three-quarters in diameter, nearly black, and covered with vesicles containing a brownish ichorous matter. The thigh itself was dreadfully swollen. Leeches in large numbers were applied, and the blood allowed to flow; complete abstinence from solid or liquid food was ordered, and gummy and acidulated drinks administered.

On the second day, the patient was better; but pain still continuing, leeches were again resorted to, and poultices applied to the part affected.

Under this treatment, the eschar was gradually detached, the swelling diminished, and the pain was calmed. From some cause or other, the disease and granulating surface became inflamed; leeches were again applied, and in a few days the wound was completely healed, and the patient recovered. Mr. P. recommends the surface of the wound to be lightly touched with the nitrate of silver, or some other caustic, as soon as the granulations have risen to a level with the skin. The present patient, however, would not submit to this operation, and recovered perfectly, notwithstanding.—*Annales de la Medecine Physiologique, Juillet*, 1825.

33. *Malignant intermittents.*—Mr. V. Francois, of Mons, in France, has lately published some cases of intermittent gastro-enteritis, arachnitis, cerebral congestion, gastro-entero-cephalitis, and one case of arachnoido-cephalitis, furnished him by Dr. Ponta, of the same place. In all these cases, the depletive practice was adopted during the paroxysms, and carried, in some cases, to great extent; and the bark or sulphate of quinine was administered during the apyrexia. General bleeding was resorted to in several of the cases, and a large number of leeches were applied near the parts affected.

M. Francois has thus refuted the assertion of some, that the greatest caution is necessary in employing blood-letting, &c. in the malignant intermittents of some authors, on the plea, that the local symptoms of inflammation, in those cases, are deceptive, and indicate a *nervous* derangement, requiring a different treatment.—*Ibid.*

34. *Chronic Pneumonia.*—Professor Nasse, of the University of Bonn, suggests the propriety of having recourse to the incision of the thoracic parietes, in cases of chronic pneumonia, in order to evacuate the products of the inflammation. He has actually performed that operation in a case of phthisis, accompanied with difficulty of expectoration. The lung was found solid, was incised to the extent of two lines, and a tent introduced into the wound. A few days after, a large quantity of ichorous matter was discharged. Relief was thereby obtained; but the wound healed up, and the disease was once more aggravated. It does not appear that the patient was much inclined to submit again to this *innocent* operation; as he placed himself under the care of another physician.—*Journal Complémentaire, May,* 1825.

35. *Tetanus cured by antiphlogistics.*—M. Cheron has cured a case of tetanus, by means of evacuations of blood. Similar affections have likewise been removed by the same means, under the care of MM. Paradis and Paul, of the army.—*Journal Universel, May,* 1825.

36. *Mackenzie on croup.*—Dr. Mackenzie of Glasgow proposes to assist the cure of croup by means of nitrate of silver, employed as a wash to the fauces. Croup arises from inflammation, which causes the deposition of coagulating lymph in the form of membrane. This secretion often is observed as far up as the tonsils, uvula, &c. A camel hair pencil dipped in a solution of twenty grains of nitrate of silver in one drachm of water, and applied to the tonsils, uvula and the posterior parts of the fauces, generally causes them to throw off the false membrane; and as the diseased surfaces within the larynx are continuous with these, the same action is extended so as to effect the detachment of the croup membrane therein. He recommends that the pencil be freely thrust in the fauces once or twice a day, according to the severity of the disease. No bad consequences have occurred, in his practice, from this method.—*Vide Ed. M. & S. J. April,* 1825.

37. *Tic Douloureux.*—Dr. Borthwick relates three cases of neuralgia or tic douloureux cured or much mitigated by the exhibition of carbonate of iron, in doses of one drachm, thrice a week; one drachm thrice a day, and one scruple three or four times a day. Dr. B. considers it "now almost a settled point in practice, that iron will relieve, if not cure, tic douloureux (neuralgic affections, generally speaking,) as certainly and speedily as quicksilver, in particular forms, will relieve and *cure* lues venerea."—*Ib.*

R. Ranking relates the cure of four cases of neuralgia by the exhibition of the same remedy.—*Lond. Med. & Phy. J. Feb.* 1825.

Mr. Henry recommends the application of the extract of belladonna,

moistened with water, to the painful part in tic douloureux. In one case a cure was slowly effected; in another, in less than ten minutes.—*Ib. June.*

Oil of turpentine has been recommended in France for the treatment of neuralgic diseases. In some forms of sciatica, which are analogous, it is highly spoken of by DREFAUR in the Revue Med. and by MARTINET in a memoire sur l'emploi de l'huile de terebenthine.

38. *Doctrine of Homœopathia.*—A new doctrine has arisen in Germany; it is called homœopathia, and teaches, that, in combating diseases, we ought to select such remedies as produce symptoms the nearest possible to those of the affection we wish to cure.

This principle, (if it be one,) so different from that of the Italian school, was discovered in 1806 by HAHNEMANN of Leipsic.

Inasmuch as belladonna produces by its operation on the body, a scarlet eruption, with affections of the fauces, similar to those noticed in scarlatina, he determined to employ the medicine accordingly.

BERNDT, a physician of Custrin, used belladonna as a preventive of scarlatina, when it was epidemic in that city. He gave it to one hundred and ninty-five persons, of whom, only fourteen were afterwards infected, though continually exposed to the infection. He subsequently used a stronger preparation, and every subject of his experiment escaped the disease.

These observations have also been made by DUSTERBURG, a physician of Warberg. Some children who took no belladonna, in order to a comparison, were affected, while those to whom he gave it early enough, escaped.

Dr. BEHR gave it to forty-seven, of whom, six only took the disease. Professor KOREFF, of Berlin, says, that those who have taken belladonna in proper doses eight or nine days before, may be afterwards safely exposed, provided it be continued to the period of desquamation. Three grains of extract of belladonna being dissolved in one ounce of cinnamon water, two or three drops of the solution were administered twice a day to a child under one year old, and an additional drop for every additional year.

In general no sensible operation was effected; in some cases, however, an eruption resembling scarlatina was observed. It is agreed by most of these writers, that the belladonna mitigates where it does not entirely produce scarlatina, which never proves fatal to such as have taken the extract four or five days previous to exposure to the infection.

39. *Goitre.*—The discovery of iodine in 1813, by COURTOIS, a manufacturer of saltpetre in Paris; its adoption as a medicinal agent by Dr. COINDET of Geneva, in 1819, and the discovery of it in burnt sponge by Dr. FYFE, in Scotland, shortly afterwards, are known to the profession. The application of this powerful medicine, in the treatment of bronchocele, continues to be popular, and we shall, therefore, communicate such facts concerning it as are worthy of notice, as occurring in the last year. Dr. CHARLES JOHN DITCHFIELD cured a bronchocele as large as a duck's egg: he gave ten drops of

tincture of iodine three times a day, and a "piece of the size of a hazel-nut, of an ointment, composed of a drachm of the hydriodate of potash, and two ounces of prepared hog's lard, to be rubbed on the tumour for a quarter of an hour, night and morning." The tincture produced some nausea for two or three days, but gave no uneasiness afterwards. Four leeches were applied every fourth day, and the young lady got well very rapidly.—*Lond. Med. Rep. Jan.* 1825.

Dr. DRUG, in the London Medical and Physical Journal, January, 1825, who has been familiar with GOITRE, in Derbyshire, informs us, among other things, "that the constant use of an acetous ferment, (especially in bread,) as an article of food, appears, under certain favourable circumstances, to be an exciting cause of bronchocele; such circumstances consisting either in a scrofulous diathesis, or a peculiar state of the system, the result of imperfect nutrition, confinement to factories, &c. &c., and goitre exists in a precise ratio with their degree of operation."

Again. "The tincture of iodine may be considered a pretty certain remedy for endemic goitre in young subjects:" he also thinks that though a powerful medicine, it may be given without danger to life. It is unquestionably a dangerous medicine, except in the hands of prudent and circumspect physicians. To be satisfied of the danger of transcending the limits, imposed by a proper caution, we have only to refer to the cases mentioned in the Journal Complementaire. A gentleman desirous to get rid of a small goitre, had permission of his physician to take tincture of iodine in doses of three drops; being impatient for the result, he took a teaspoonful of it at a dose for a considerable length of time. The consequences of this imprudence were a suite of symptoms, which were highly distressing, and continued until death. A woman also died under similar circumstances, and marks of most extensive inflammation were found in her abdominal viscera. In neither of these cases was the goitre diminished in size.

40. *Tartar Emetic ointment.*—In some observations on the ointment of tartarized antimony, Dr. CARTER speaks favourably of its use in epilepsy, thereby confirming what he and Dr. CREIGHTON had before said, concerning it. Dr. CARTER remarks, that he "once saw from the application of the ointment to the chest, a most copious pustular eruption on the scrotum, while other parts of the body were unaffected." He adds, that "in one instance, sickness followed the use of the ointment; it was discontinued, and the sickness ceased, but returned as soon as the remedy was resumed.* —*Lond. Med. Rep. April*, 1825.

Mr. R. HUNTER, has used with great success, the tartar emetic ointment rubbed on the spinal region and head, in a case of rotatio or chorea, attended with singular symptoms.—*Ed. Med. & Surg. Journal, Jan.* 1825.

* A case lately occurred to one of the editors of this Journal, in which the application of tartar emetic ointment to the chest, occasioned a severe gnawing pain in the stomach, very similar to that which the patient had experienced from the internal use of the same remedy.

41. *Spirits of Turpentine.*—We have had various recommendations, in regard to the best mode of exhibiting the spirits of turpentine, internally. Dr. KINNEIR thinks, that the most proper method of administering it in puerperal fever, is in doses of from one to two drachms in some emulsion of almonds. This should be repeated, every third or fourth hour, until a considerable abatement of pain and other symptoms takes place.—*Lond. Med. & Phys. Journal, July,* 1825.

Ol. Tereb. in purpura hæmorrhagia.—A case of purpura hæmorrhagia, cured by the spirit of turpentine, is reported by Dr. JOSEPH JOY MAGEE, of Dublin. Dr. M. thinks, that in enteritis, peritonitis, colic, and certain inflammatory or spasmodic affections of the abdominal viscera, this remedy acts as a specific, and in dysentery he has seen the most decided advantage from its judicious exhibition. He generally gives half an ounce, in conjunction with an equal quantity of *oleum ricini*, and a little peppermint or cinnamon-water; in smaller doses, he has found it to occasion strangury. In the case more particularly before us, the symptoms on the skin were very decided—hæmorrhage from the mouth, and mœlena stools were passed. The remedy was given almost every day, in the foregoing doses, and the patient soon recovered.—*Ed. Med. & Surg. Journal, Oct.* 1825.

Spirits of turpentine in erysipelas.—H. COX, Esq. has described an interesting case of erysipelas of the face and scalp, in which the oleum turbinthinæ was successfully administered, although the patient presented the most alarming symptoms—such as countless pulse, profound coma fuliginous coat of the tongue, teeth and jaws. The medicine was exhibited in large doses; repeated several days in succession; the symptoms gradually disappeared, and the patient recovered.—*Lond. Med. Rep. April,* 1825.

42. *Ice in inflammation.*—The application of ice to painful and inflamed parts, is not new; but it is so often neglected, that we think it right to remark, that Dr. ALLEMAND has removed, as if by enchantment, an excruciating pain of the ilio femoral joint, by the simple application of ice.—*Observateur des Sciences Médicales, Marseille, Feb.* 1825.

43. *Schirrus cured by antiphlogistics.*—Many cases have been cited, since the publications of BROUSSAIS, of cures of cancer and schirrus, by means of leeches. Professor LALLEMAND, published some cases last year; and Messrs. TREILLE and VARLEZ, also furnished examples of the sort. M. ROUX, has lately effected a cure of schirrus, situated on the side of the neck, by means of the reiterated applications of these animals, and the use of sub-muriate of mercury, internally. The practice ought to be more frequently resorted to in this country.—*Ibid.*

44. *Chorea.*—In a very excellent essay on chorea, Dr. DROUET of Nantz, has detailed six cases of this disease, all of which were cured by means of the antiphlogistic treatment. Dr. D., in imitation of BROUSSAIS, regards chorea as the result of a chronic inflammation, either primary or secondary of the cerebro spinal system, and applies his remedies agreeably to this

view of the subject. In the cases described, leeches were applied behind the ears, or along the jugular veins. But, whenever the cerebro spinal irritation appeared to depend on an irritation of the stomach or other parts, leeches were applied to the latter. The patient was kept on small portions of the least irritating food; and, whenever there existed no gastric or intestinal phlogosis, purgatives were had resource to, as revulsives.—*Annales de la Medicine Physiologique, Mai*, 1825.

Antiphlogistics in chorea.—The practice of Doctors Forcadi, Ulo, Isoard and Sue, have furnished them with frequent opportunities of observing the good effect of leeches, and warm bath of soft water, in young girls who have not yet menstruated, and are attacked with chorea.—*Observateur des Sc. Med. Marseille, February*, 1825.

Dr. Dupuis describes an interesting case of chorea, in which local evacuations of blood, by means of leeches, were sufficient, without the aid of internal remedies, to effect the cure. The subject of the case was a boy thirteen years old. The gastric system was much irritated, and in consequence, it was on the epigastrium that leeches were first applied, and afterwards to the basis of the brain, and to the spinal region, for three weeks. At the same time, the patient made use of baths, the duration of which was gradually increased to several hours, morning and evening. In the course of a few weeks, the patient was cured.—*Annales de Medicine Physiologique, January*, 1825.

45. *Prussic acid in tetanus.*—Prussic acid has lately been applied to the treatment of tetanus by Dr. David H. Trezevant, of Columbia, S. C. Although in the case described the patient did not recover, the prussic acid had a decided effect in moderating the spasms of the affected muscles. Dr. T. says, "This acid appears to exert a much more decided effect upon the muscles of deglutition and those of respiration, than upon the limbs." If subsequent experiments prove this to be a fact, will it not be a valuable auxiliary in the cure of asthmatic affections, and the whole train of anginas? The remedy certainly deserves a trial in tetanus.—*Phil. Med. Rec. Oct.* 1825.

Prussic acid in hooping cough.—Mr. Venable has lately published some observations on the use of prussic acid in pertussis. In his hands, this remedy seems, indeed, to have been beneficial. He thinks the prussic acid is, probably, principally indicated in those temperaments which are more purely nervous, and in which great irritability is the more predominant character.—*Lond. Med. & Phys. Journal, Oct.* 1825.—The remedy has been employed before, by Dr. Granville, of London; and in this city, several physicians have occasionally resorted to it, and, we believe, with some success.

Prussic acid in nervous affections.—Mr. Guerin de Mamers has lately published the results of some observations on the use of the hydrocyanic acid in nervous diseases, and more particularly in epilepsy; from which it appears, that the medicine may be advantageously employed in these com-

plaints. He gives it in small doses, having recourse, at the same time, to leeches, and other means calculated to remove any local irritation; and to revulsives, external and internal. As Mr. M. is a disciple of the physiological school, he lays much stress on the impropriety of having recourse to the latter, when there exists any phlogosis of the mucous surfaces of the stomach and intestines.—*Annales de la Med. Phys. Mars*, 1825.

46. *Employment of caustic to destroy the variolous eruption.*—M. Velpeau read a memoir to the Royal Academy of Medicine, tending to prove, that, if the pustules of the small-pox are cauterized within the two first days of their appearance, they die away entirely; and if this be done even later, their duration is abridged, and no traces of them left. The caustic he employs is a solution of nitrate of silver, in which he dips a probe, with which he pierces the centre of each pustule. M. Dumerel says, that he has been long familiar with this practice; but instead of the solution, he employed the solid caustic itself.

47. *Calomel.*—In a very good essay on syphilis, Dr. Cartwright, of Natchez, Miss., reprobates the use of small doses of calomel for the cure of this disease, and is of opinion, that large doses answer much better. In support of his opinion, he adduces several interesting cases of the worst forms of the malady cured by this means. He assures us, that he could relate numerous cases of the worst kind, attended with buboes, ulcers of the throat, caries of the bones, and nodes, which have yielded nearly as soon to the above plan, as a recent infection would have done to the common method. As respects recent cases, he has found them to yield almost as soon to twenty or thirty grains of calomel, given every or every other day, as a common cold in good constitutions yields to the native powers of the system. He never endeavours to produce salivation; and to guard against such an event, he always directs an injection to be given, or some mild purgative taken, in twelve or sixteen hours after the calomel, if it does not operate. "And in the event of its operating too much, I direct a little laudanum, so as to limit its action on the bowels to two or three evacuations, unless they be of a dark green or black colour. As soon as a copperish taste is perceived in the mouth, or the least tenderness of the gums, or soreness of the teeth, I order its immediate suspension, until these symptoms have disappeared; when it should be resumed with caution.

Dr. Cartwright is an advocate for very large doses of calomel in bilious diseases, instead of the smaller and repeated prescribed by some physicians. This practice is also had recourse to by our friend Dr. Johnson, of Louisville.—*Phil. Med. Rec. July* 1825.

48. *Galvanism* has lately been used, with the greatest success, in the treatment of paralysis. A case is described in the Revue Médicale, for May 1825, in which the lower extremities were completely paralysed. Nux vomica, digitalis, arnica, and other remedies were employed in vain.

Galvanism was then employed, and after seven applications, the disease was completely removed.

49. *Moxa.*—The moxa is occupying the attention of the British physicians more than it had heretofore done. In the hands of Mr. Boyle, it has been very useful in several diseases, of the joints particularly. This physician recommends the following preparation, which appears to be, in many respects, similar to the Chinese moxa. It is formed by dissolving one ounce of nitre in a quart of water, and saturating in it some fine cotton wadding. This being afterwards dried and divided in small parcels, enclosed in paper cylinders, about an inch in diameter and one inch in height. Agreeably to Mr. Boyle, this preparation burns in a very slow and gentle manner, and when kept dry, is always fit for use.—*Boyle on Moxa.* p. 29. 1825.

Dr. Burne has lately employed moxa formed of wood in a state of dry rot touchwood, which is said to be used for the same purpose by the Laplanders. He finds that this may be applied with greater facility than any other material hitherto in use, and it requires no other preparation than the cutting into cones or cylinders of convenient size. The combustion supports itself without the aid of bellows, produces almost no smoke, and is so gentle and equal as not to excite horror or alarm in the patient. The cones are readily affixed to any part of the body, by touching the opposite sides of the base with the least possible quantity of adhesive plaster, which renders the use of the forceps unnecessary. Our readers are aware that the mode in general use, consists of a cylinder of cotton, or magwort, or lint, or cotton, which have been steeped in a solution of nitrate of potash. But all these materials are objectionable; the cotton and magwort requiring bellows to keep up the combustion, and giving out a great quantity of smoke; and the nitrate of potash making it necessary to defend the surrounding parts from the sparks. The combustion, too, is sometimes violent, sometimes difficult, and at others incomplete. The cylinders of touchwood answer very well, where it is desirable to apply moxa in the manner recommended by Dr. Boyle.—*Lon. Med. Repository, Oct.* 1825.

Mr. Sarlandiere recommends that in applying moxa, use should be made of cold substances, laid as near as possible to the spot, which are undergoing cauterization, in order that the patient's sensations distracted by the extremes of heat and cold, may be rendered vague and less painful; his patients have been much comforted by applications of cold pieces of iron or marble; ice is also used.—*Memoire sur l'Electro puncture et sur le moxa. &c.* p. 70.—*Paris,* 1825. 8vo.

50. *Acupuncture.*—At a sitting of the section of surgery in the French Academy of Medicine, Mr. Aumont briefly related the case of an officer on whom acupuncture of the abdomen was performed for the relief of pains which had resisted all other means. The first needle was introduced two finger's breadth from the umbilicus, and caused severe pain. A second needle was inserted at the same height, and along the inner border of the rectus

muscle; the second puncture was scarcely made before the patient fainted; and when he recovered he complained of tormenting pain, which was soon accompanied by fever and a distressing heat in the region of the abdomen. This state lasted several days, and when it had yielded to an antiphlogistic treatment, the original painful disorder had not suffered the slightest diminution.—*Lon. Med. Repository, May*, 1825.

According to Mr. MEYRANX, the needles made use of at la Pitié, are of steel, but rendered ductile by heating them in the flame of a candle, and then suffering them to cool slowly.

Mr. BOULARD of Orleans, has detailed the results of two operations of acupuncturation. In the first case, the patient was affected with a violent rheumatic inflammation of the upper part of the left shoulder. The needles were applied at three different times, and the patient recovered in twenty-two days from the first operation. This patient was attacked, on the first day of the operation, with a complete syncope. In the second case, the needles were had recourse to for a pain in the right hypochondriac region, of long standing. After repeating the operation several times, the pain disappeared, but was succeeded by epileptic attacks, which continued to appear every four or five days. Mr. BOULARD generally applies dry cups before resorting to the needles.—*Annales de la Med. Physiologique, Mars.* 1825.

Mr. SARLANDIERE has lately offered a description of the shape and length of the needles used by the physicians in Japan and China, for acupuncturation. He has also given an account of their composition. He claims priority in the use of this remedy in France; and is of opinion, that the sensations experienced by the patient, on the introduction of the needle, are the result of a galvanic action occasioned by the contact of the metal with the nervous and muscular fibres, and with the fluids which wet the needle.—p. 251.

Professor PELLETAN FILS has published a notice of the theory and effects of acupuncture, from experiments made at the hospital Saint Louis. It results from his observations that he has seen acupuncture practised with success; 1st, in violent neuralgia; 2nd, in rheumatism; 3d, in accidental contusions and anomalous pains; 4th, in chronic affections.—*Revue Medicale, January* 1825.

M. MEYRANX has also published the results of experiments tried at la Pitie by Dr. BALLY. From him we learn that Dr. B. used it in rheumatism, and in general obtained success from it, provided there existed no inflammatory fever. He also prescribed it with success in a case of pleurodynia succeeding to pleuritis, and with relief in a case of chronic inflammation of the pericardium. In this case, Mr. BECLARD introduced four needles in the region of the heart, one of them penetrated as far as the left lungs, and probably touched the pericardium.—*Archives Generales, Feb.* 1825.

M. J. CLOQUET has in like manner tried experiments, amounting to several hundreds, at the Hospital Saint Louis. For an account of many of

these we must refer to an essay on the subject, by M. MORAND, a translation of which has lately been published in this city, by Dr. FRANKLIN BACHE.

MM. POUILLET and JULES CLOQUET have established, on sure grounds, the fact of galvanic changes, effected in acupuncturation. The electro galvanic phenomena were always visible in their experiments when oxydizable metals, as steel, were used. None, however, were visible in experiments made with needles of platina, gold or silver. Hence the inference of galvanic, and not mere electric movements in the cases under consideration.—*Journal de Physiologie, Avril*, 1825.

51. Mr. BRERA has very recently used in the hospital of Padua, a species of bark which he calls the *Quina Bicolor*. Agreeably to him, it possesses considerable febrifuge properties, and has a nearer resemblance to the Simarouba or to the Bonflandia, than to Cinchona.—*Revue de Chimie Medicale, Feb.* 1825.

52. *Neuralgea.*—We publish, with much pleasure, the following letter, received by one of the editors. So far as we can learn, the practice recommended is new, and deserves attention.

DEAR SIR,—About three years ago, my servant, Lemuel Jones, was afflicted with a neuralgic affection of the right side of the forehead, of a periodical character. Such was the severity of the paroxysm, as to affect his mind, and to raise a considerable tumor at the time of attack. Believing, from the protracted duration of the complaint, and from certain phenomena, that the bone was diseased, I cut down to it, in the hope of relieving him. The bone was found perfectly sound, but the part appeared unusually vascular. This led to the opinion that perhaps the local irritation might be removed, by tying up the branch of the temporal artery going to the part, which was accordingly done. The disease ceased, and from that period he has not felt, in the part, the least symptom of irritation; nor has a similar disease attacked any other part of his system. Dr. Sharpless, of this city, favoured me with his assistance in this operation, and can vouch for the accuracy of the statement.

Encouraged by the success of this operation, I have since, in two other cases of neuralgic affection of the scalp, passed ligatures round the principal arteries going to the part, and in both cases had the pleasure of effecting an immediate and perfect cure.

I expect soon to receive from the country two cases of neuralgia, one of the cheek, and another of the great-toe, in both of which, if acupuncturation should fail, I will try the effects of ligatures on the arteries of the part, and report to you the result.

A short notice of this, which I believe to be a new practice, will much oblige,

Dear Sir, your friend,

J. K. MITCHELL.

53. *Ilex aquifolium.*—Mr. Emmanuel Rousseau has lately called the attention of Physicians to the febrifuge properties of Ilex aquifolium (Holly oak) in a memoir read before the Royal Academy of Medicine of Paris. This is not a new remedy, as it appears to have been long ago used by Reid, in an epidemic of intermittent fevers; and is often resorted to in several provinces of France; but we are not aware that any one, previous to Mr. Rousseau, has made so many and positive experiences with it. He administered an infusion in white wine; and in the dose of one drachm of the powder given two or three hours before the expected paroxysm, has succeeded in putting a stop to the disease.—*Aperçu sur les propriétés Fébrifuges du Houx.*

54. *Spilanthus oleracea.*—Mr. Emmanuel Rousseau has lately published a minute description, and chemical analysis of the *Spilanthus oleracea*, or Cresson of Para. To this he has added some observations on its medicinal properties: from which it would appear, that this plant is a valuable remedy in scorbutic diseases. Mr. Rousseau also informs us that Mr. Morand has used this remedy, and found it invaluable in passive hæmorrhages of the gums, and all asthenic affections of the mouth. Mr. R. administers it in an alcoholic tincture, in the proportion of one handful in half a pound of alcohol at 33*o*. The dose is a table-spoonful three times a day, in half a tumbler full of infusion of Saponaria.—*Revue Medicale, Avril*, 1825.

55. *Flower of the Colchicum.*—Thomas Bushell, Esq. has lately offered to the medical public, some cases illustrative of the beneficial effects of the Flores Colchici Autumnalis, in acute and obscure Rheumatism, Chronic Iritis, inflammation and swelling of the muscles, &c. After describing six cases, he adds, "I could adduce, were it necessary, many other cases, in which the preparations of the flower of colchicum were administered with the most satisfactory results. I have seldom found that they have not exerted a very powerful influence on the nervous and vascular systems—Pain has been allayed, the force of the pulse has been diminished, and the secretions, in general, have been materially augmented. A medicine possessing these properties cannot be without its value in the treatment of disease." Mr. B. from his experiments with it, is disposed to recommend the flower as more efficacious, certain, and tractable than the root or seeds. In respect to the best mode of preserving the flowers for medical use, he says, "The colchicum autumnale produces its pale blue flowers in the month of September. They possess the new aromatic odour, and contain a considerable portion of acrid mucilaginous juice, which renders them difficult to dry; not only the petals, but the whole flower-tube (which is long) should be gathered for use. The dried flowers should be exhaled from air and moisture, as they lose their odour and become damp. I have made the tincture in the following manner:—

R. Flor. Colch. exsiccat et contus. 1 oz.
Spirit. Tenuioris octarium unum.

Macera per dies septem, tanc exprime et cola.

The wine and vinegar in the same proportions.—*London Medical Repository for March*, 1825.

In an essay on the Flowers of Colchicum Autumnale, Mr. FROST remarks, that they afford the profession a certain uniform and safe medicine, in those cases in which the use of the Colchicum is indicated, and do not produce those unpleasant effects which occasionally follow the use of the bulb. "Another great advantage, he observes, is, that the strength and properties of the preparations made from them are always uniform; for the collector cannot err in the time of selecting them, and their virtues cannot be readily impaired hy the mode of conducting the processes for their preparation."—*London Medical Repository, August*, 1825.

56. *Cornine.*—Mr. GEORGE W. CARPENTER, a very intelligent chemist of Philadelphia, has lately succeeded in obtaining an alkaline principle from the bark of the cornus florida. To this substance he has given the name of cornine. Drs. MORTON and REZNEL COATES, of this city, have employed this preparation in intermittent fever, and speak highly of its efficacy. The dose is the same as that of sulph. quin.—*Philad. Medical & Physical Journal, November*, 1825.

SURGERY.

57. *Compound luxation of the knee joint.*—Messrs. MILLER and HOFFMAN, surgeons, report a case in which the os femoris was thrown completely from the tibia, obliquely downward and outward; its external head protruding through the integuments, and causing a lacerated wound of about three inches, which exposed the joint, and the poplitæal artery: the latter being uninjured. The dislocation was immediately reduced without difficulty; the lips of the wound approximated by sutures, and adhesive strips, and, after reaction, the antiphlogistic practice was adopted—general bleeding being required. The discharge from the joint at first, consisted of synovia and ill digested pus; was afterwards thin and ichorous: as his strength increased, and the fever declined, it improved, and by the middle of July, (the accident occurred on the 28th of May, 1825,) the wound had nearly healed, and the joint capable of complete flexion, but not of extension. On the 23d of August, the wound had been healed more than a month, his crutches were laid aside, and the patient able to walk with a tolerably firm step.—*London Med. Repos. for October*, 1825.

58. *Amputation at the hip-joint.*—Professor WALTHER, of the University of Bonn, on the Rhine, has lately performed this severe operation, in the case of a young man, whose constitution was nearly exhausted by chronic abscesses of the thigh, complicated with a subsequent fracture of the os

femoris. The operation was borne very well; incipient union had commenced; laudable pus and healthy granulations had formed by the fifth and sixth days; but, unfortunately, a gangrenous ulcer on the sacrum, now disturbed the progress of the cure; fever ensued, and the patient died on the eleventh day. There were no diseased appearances in the chest or abdomen; no inflammation of the internal surfaces of the veins, and, in the arteries, the usual plugs of lymph were found.—*Medico-Chirurgical Rev. Oct.* 1825.

59. *Hospital gangrene.*—Mr. Guillaume, army surgeon, has treated with the greatest success, a wound, complicated with "*hospital gangrene*," by means of leeches. It is well known that this practice has been often successful, since the physiological era in medicine.—*Journal Universel, May*, 1825.

60. *Removal of a great portion of the scapula.*—This operation was performed on the 4th of October, 1824, by M. Janson, principal surgeon of the Hotel Dieu, at Lyons. Five years previously, a tumour commenced on the scapula, which had, at last, attained the size of a child's head; extending into the axilla, so that the arm was kept elevated at right angles to the body; violent darting pains; loss of sleep, appetite, and strength succeeded. All that portion of the scapula, which was above its spine, was found in a healthy condition, and being separated by a saw, from the diseased part of the bone, the latter was removed; so that the articulation of the arm was preserved. That portion of the tumour in the axilla, was also completely removed. By the fifteenth of March, the parts had entirely healed, and the motions of the limb were becoming daily more free.—*Archives Gen., Aout*, 1825.

61. *Cataract and Gutta Serena.*—Dr. Gondret reports, that the cauterization of the frontal portion of the cranium, either by means of heated copper, or by ammonia, *cures*, as well as prevents both cataract and gutta serena. He says, that by these means, together with the continued employment of galvanism, he has succeeded in curing many aged persons of these affections, and has improved the condition of many others.—*Revue Med. Journal*, 1825.

62. *Fistula Lachrymalis.*—M. Gensoul, chief surgeon of the Hotel Dieu, at Lyons, has reported through M. Lisfranc, several cases of fistula lachrymalis, cured by means of "caustic introduced through the inferior orifice of then asal canal."—*Annales de la Med. Phys., Mar.*, 1825.

63. *Tumor Lachrymalis.*—M. Beclard and other surgeons have cited cases of recovery, by applying leeches near the "tumor lachrymalis," and in the direction of the lachrymal canal.—*Ibid.*

64. *Circocele.*—Dr. Jameson has executed with success, in two instances, a new operation for this complaint, by tying the spermatic artery; thus cutting off the supply of blood to the enlarged and diseased veins. He, in this manner, avoids the danger of operating upon diseased veins, and, at the

same time, prevents their further distension. His first operation was in March, 1821, the second in November, 1822. The same operation, says Dr. JAMESON, has also been performed by M. MAUNOIR, of Geneva, in two cases, with success. These were published in 1821, after Dr. J. had devised and executed his operation in Baltimore.—*Med. Rec., April*, 1825.

65. *Cancer of the Uterus.*—M. BANDELOCQUE, the nephew, relates the case of a cancer of the uterus, which he cured by the repeated applications of leeches to the cervix uteri, by the use of a compress covered with an opiate cerate: by the repeated applications of the lunar caustic to the fungous growth, and, at the commencement of the disease, by the employment of injections of solutions of sulphate of zinc, acetate of copper, and deuto-chloride of mercury, assisted during the whole course of the treatment, which lasted for three months, by the use of hip baths and narcotic enemata.—*Archives Gen., Juin*, 1825.

66. *Puncture of the bladder above the pubis.*—F. ROBIN DE BRISSAC, M. D., relates the case of a man æt. fifty-six, who, from some pernicious habits, was liable to a retention of urine from inflammation at the neck of the bladder. For this retention he had submitted *eleven times* to the operation of puncturing this viscus above the pubis, from the year 1822 to 1824; had never suffered from traumatic fever or from infiltration into the cellular tissue, and at the end of a few days, in consequence of bleeding and other general measures, the course of the urine, "per vias naturales," was always re-established. The operation was performed with a straight cannula and trocar, without any inconvenience. By attention to some preventive measures, he has not had another attack for the last eleven months.

M. BRISSAC makes several judicious remarks on the operation here practised, and examines the foundation for the fears usually entertained against it, and for the preference given, in all cases, to the persevering and injudicious attempts to introduce the catheter, while the puncture remains only as the last resort. All agree in the simplicity and ease of the operation: but the two objections are, the *non-dependent* orifice, which is made, and the danger of urinary infiltration. The first objection is obviated by suffering the cannula to remain, by which the urine will be easily voided whenever there is a necessity for the evacuation. As to the infiltration of urine, it cannot occur at the time of the operation, as the cannula is closely embraced by the surrounding parts, so that no urine can pass between it and the tissues, and afterwards, the union of the lamina of the cellular membrane, forms a fistula impermeable to the urine. Experience has proved, that no urine will escape even if the cannula be removed in twenty-four hours, as happened several times in the above case. Hence our reporter concludes that little or no danger or difficulty attends this operation, and that in some instances it should be preferred to the more common and too exclusive practice of forcing a catheter through the urethra.—*Annales de la Medicine Physiologique, March*, 1825.

67. *Bronchotomy.*—An infant swallowed some very hot water, which caused so much inflammation and swelling of the throat and larynx, that suffocation was threatened. Life was preserved by the operation of bronchotomy.—*Archives generales de Medecine, April*, 1825.

Mr. Goodeve, surgeon to the Clifton Dispensary, on the 25th of September, 1824, successfully performed tracheotomy on a patient who had suffered from diseased larynx since the year 1820, and who, at the time the operation was performed, was in a state of asphyxia. A circular piece, about half an inch long, was cut out of the trachea; the air rushed in with immediate relief. In about an hour, a cannula could be borne in the trachea, and was worn, without inconvenience, for six months. The patient was then able to lay it aside, and his voice was quite restored.—*London Med. Journal for July*, 1825.

Mr. Carmichael, it is said, has performed with success, the same operation, under similar circumstances. "We expect to see the day, when the operation will be often performed in ulcerations of the larynx, so as to give the said ulcerations time to heal, and the cartilages to exfoliate. We have no doubt, that many cases of laryngeal phthisis might be saved by this operation."—*James Johnson, M. D. in Med. Chirurg. Review, Oct.* 1825.

68. *Paracentesis thoracis for Empyema.*—A robust man, aged twenty-four years, was attacked on the 24th of January, 1824, with the symptoms of acute pneumonia. By decided antiphlogistic measures, on the fourteenth day, he appeared convalescent, but at the expiration of four days, pain, cough, dyspnœa, horripilations, &c. returned, followed by hectic symptoms, of the most threatening character, with a sense of suffocation and a feeling of weight in the breast; he could not move for a few moments, without loss of breath, and danger of syncope; continual orthopnœa, disturbed and frequent pulse, &c. The right side of the chest was enlarged; the ribs separated; the intercostal spaces prominent, and on percussion, a heavy sound was emitted at every point.

M. Renard saw this man on the 29th of February, and on the 1st of March, having decided that an effusion had occurred, he operated from empyema. The external incision of the skin, &c. was two inches in length; but a puncture merely, was made into the pleura, through which, about three pints of a sero-purulent fluid escaped, "with astonishing force, and was thrown to a considerable distance, by each respiratory motion." As soon as its violence lessened, "we introduced a tent of lint into the breast." The wound was covered by a pledgit and bandage; immediate relief was afforded; perfect rest, and a milk diet was enjoined.

In the evening, by the efforts to cough, the tent was driven out, and the pus ceased to flow; it was necessary to enlarge the opening in the pleura, by an incision five or six lines in length, through which, another pint of matter was discharged. The tent was taken out every twenty-four hours, for the discharge of pus; and "every possible precaution was taken to pre-

vent the entrance of the atmospheric air," but some, nevertheless, entered at each dressing. The pus became altered, and if not evacuated every day, proved irritating, and brought back all the bad symptoms; to facilitate its complete discharge, injections of barley water (miéllée) were occasionally used. In this way, the pus became "laudable," and daily diminished in quantity; the patient recovered his health, flesh and strength. "The sides of the cavity insensibly approached each other, so that, by the 17th of April, the contact was complete," and by the first of May, the whole was cicatrized, and the right side of the chest had recovered its form and functions.

"It is in these circumstances especially, (our reporter adds,) that we should literally obey the well known axiom." "Melius est anceps remedium quam nullum." Without the operation, the patient would have perished.

Two more interesting cases, related by the same gentleman, were treated in the same manner, and with equal success; want of room, however, prevents us from offering them in detail.

Mr. RENARD, in some reflections on the above cases, observes, that the prejudices of many surgeons against this operation, and its frequent want of success, should be attributed, not to the operation itself, but to the subsequent treatment, which has hitherto been based on the idea, that tonics and stimulants are necessary for the management of the "*pretended* hectic fever," which endangers the patient. "These measures never fail to exasperate the phlogosis, which had caused the effusion of pus, and to effect the disorganization of the tissues affected." That the mixture of air with the pus, will produce changes in this fluid and render it irritating, BROUSSAIS and most others readily acknowledge, and it is confirmed by the two first of the above cases; but no bad consequences will hence result, if it be evacuated every twenty-four hours, with suitable precautions to prevent, as much as possible, the introduction of air; if mild injections are thrown into the interior of the cavity, and especially, if we never desert the soothing plan of treatment. In this way, unless disorganization has already occurred, the pus will resume its healthy character; the phlogosis will be dissipated, and the patient preserved. This practice, so improved and successful, is derived from the principle of making physiology the foundation of medical and surgical principles.—*Annales de la Medecine Physiologique, May*, 1825.

In a case of pleurisy, followed by effusion in the cavity of the pleura, which occurred at the Hotel Dieu of Paris, Professor RECAMIER evacuated the fluid by means of a fine trocher, "the great advantage of which, is, that it does not allow the admission of air into the chest." The operation was repeated three times, and the patient entirely recovered.—*Tableau des maladies observées a l'Hotel Dieu dans les salles de clinique de M. le professeur Recamier pandant le quatrieme trimestre de* 1824, *par L. Martinet.*

69. *Chronic Hydrocephalus.*—J. F. Barnard, Esq., member of the Royal College of Surgeons, published in the Medical Repository for 1823, a case of chronic hydrocephalus, *successfully treated by pressure*, at a very advanced period of the disease, and when there appeared little chance of the recovery of the patient.

He now reports a *second successful case*, of a child eighteen months old. Head enlarged: bones separated, and fontanelles distended by the included fluid: convulsions, but no strabismus: disorder of the stomach and bowels: excretions various in colour and in consistence. He had the head shaved, and applied adhesive plaster tightly around it. Castor oil directed to be exhibited occasionally. The plaster was renewed as it became loose. This practice was steadily continued for one month. The child regained its health and strength, and continues to enjoy both. "The head is now, three months from the time of leaving off the pressure, of its natural size, and the bones are rapidly uniting." Bath, 27th July, 1825.—*London Med. Repos. & Review, Sept.* 1825.

70. *Lithotomy.*—Dr. Jameson recommends very strongly, the practice of passing an elastic catheter through the urethra, immediately after the operation, so as to prevent the accumulation of urine in the bladder, and its transit through the wound; and thus allow the external incisions to unite by the first intention. He has "practised this twice in calculous patients, with the fullest success, and many times in operations upon the urethra."—*Med. Rec., Oct.* 1825.

M. Beclard operated on a young man, aged nineteen years, by making a transverse incision on both sides of the neck of the bladder. The wound closed rapidly; in two hours, urine was discharged per urethram; and from this time none passed through the wound. No difficulty or delay was experienced in the recovery.—*Archives Gen. de Med. Feb.* 1825.—*An. Med. Phys., May*, 1825.

71. *Calculi retained in the urethra.*—M. Aumont reports, that he has several times succeeded in obtaining the expulsion of calculi, arrested in the urethra, by passing a gum elastic tent into the urethra as far as the calculus, and allowing it to remain there. Thus, the passage becomes dilated, so that the foreign body is forced out by the impulsion of urine. M. Baffes reports a similar case of impacted calculus, in which the father of the child succeeded in disengaging and removing it by means of suction, performed with his mouth.—*Archives Generales, Juin*, 1825.

72. *Calculus in a female.*—Dr. John Mackintosh, Lecturer on Midwifery, has lately extracted from the bladder of a female, a calculus weighing one ounce and thirty-five grains; which, he says, is larger than that extracted by Mr. Green, which last is of greater size than that in any well authenticated case yet published. The knife was not used; but the urethra was dilated by means of sponge tents, prepared with tallow, (those with wax failed;) so that, by the fifth day, the forceps could be introduced, and

the stone, with some little difficulty, removed. Twenty days after the operation, she could *retain her urine* and pass it at pleasure; her health being perfectly re-established, after fourteen years of suffering.—*Ed. Med. & Surg. Journal, July*, 1825.

73. *Gastrotomy for obstructed bowels.*—H. Baron, aged forty-four years, had always enjoyed good health, until three or four months previously to the 18th of July, 1824, when he consulted Dr. Richard Maitland, of the Blackburn General Dispensary, on account of a complete obstruction to fæculent evacuations per anum. On examination, a stricture of the rectum was discovered, which could not be overcome by bougies, injections, &c. &c. On the 24th, he consented to the operation, as his only chance of safety. He now had considerable fever; pulse 105, tongue foul, belly enormously distended, and tympanitic; very little pain; spirits low. At 9, A. M., the operation was performed in the left iliac region, by an oblique incision four inches in length, downwards and inwards, beginning about an inch above the superior spinous process. The peritoneum was opened to the extent of about two or three inches. The colon now presenting, was fastened to each end of the wound by a suture, (which expedient proved very useful,) and an opening, one inch and a half in length, was made into it. A considerable quantity of wind and liquid fæces were evacuated. Two other ligatures were passed between the cut edges of the colon and the external wound. By 10, P. M., five to six quarts of liquid fæces, a few scybalæ, and much flatus, were discharged; the distention of the abdomen removed; no pain on pressure, except at the wound; fever considerable. The next morning, another quart of fæces was discharged; fever diminished; and from this time, the patient gradually recovered, with an artificial anus. No means were successful in overcoming the stricture of the rectum. —*Ibid, Oct.* 1825.

In Hufeland's Journal for February, 1825, there is an interesting case recorded, in which *Gastrotomy* was performed for an intussusception, with success. The disease came on suddenly in a healthy man. Dr. Fusethius saw him on the fourth day; and with the usual symptoms of obstruction, perceived, also, an induration about the angle formed by the ascending and transverse portions of the colon.

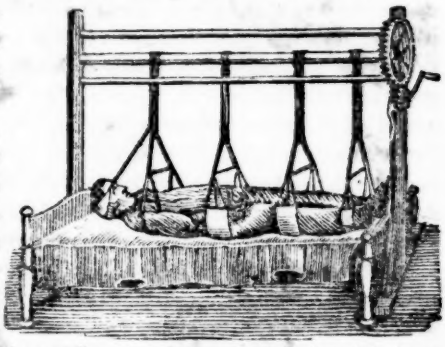
The usual treatment for obstructed bowels was ineffectually tried, not omitting the exhibition of quicksilver, and enemata of cold water; and on the tenth day, the patient, when nearly exhausted, consented to the operation.

An opening, about two or three inches in length, was made on the outer edge of the right rectus muscle, and about two inches above the level of the umbilicus; through which Dr. F. introduced his hand, previously smeared with oil, to search for the indurated part. A portion of the ileum was found, containing a foreign substance, just where the hardened part had been felt externally, and was drawn out; it was neither inflamed nor

distended, but evidently contained an intussusception, the end of which, however, could not be felt. The intestine was opened, and a portion of the invaginated gut exposed. The operator introduced his finger into the bowel, and fortunately succeeded in unfolding the entangled intestine, *which amounted to two feet in length*. There was no trace of inflammation, or any of its consequences. There was a teres worm in the upper part of the invagination. The glover's suture was used for the intestine, the ends of the ligature being brought out of the external wound; and the interrupted suture for the opening in the integuments. A natural stool occurred on the second day; no bad symptoms followed; and on the fourteenth day, the patient was quite well.

This account is condensed from the Medico-Chirur. Review, for Oct. last.

75. *Jenckes's Alleviator.*—This machine was invented by Mr. JOHN C. JENCKES, "an ingenious and respectable mechanic," of Providence, Rhode Island, in the summer of the year 1822, whilst confined to his bed with a fractured leg. It has since been used in different parts of our country, in hospitals, and in private families, and the inventor has obtained the certificate of some of the most distinguished surgeons, as to its great utility in all cases where individuals are long confined to bed, whether from accidents or disease. Among these names we notice those of Drs. WARREN, INGALLS, HOSACK, POST, MOTT, STEVENS, &c. &c. In this city it has also been advantageously used. Professor GIBSON recommends it as the most simple and efficacious method yet devised for the alleviation of the helpless. Mr. J. has obtained a patent for the machine.



MIDWIFERY.

76. *Gastrotomy.*—A female at Parma, aged forty-four years, the mother of five children, suffered a rupture of the uterus, on the ninth of August, 1817, during labour, at the full period of uterogestation. Professor CECCONI, in the presence of Dr. S. ROSSI, performed the Cæsarian operation (Gastrotomy?) two hours after the accident. The incision was made at the interior and left side of the abdomen, where the feet of the infant could be felt. The fœtus was removed, *living*. In forty days the mother was perfectly well; the menses returned rather slowly, and three years afterwards, she gave birth to an infant which lived fourteen days.

Communicated by Dr. LOUIS FRANK.—*Bulletin Universel, Juillet*, 1825.

77. *Extra Uterine Pregnancy.*—Dr. Lalanne, of Sarragossa, under date of the 31st of March, 1825, communicates a case of extra uterine conception, followed by an abscess, the discharge of the fœtus, and subsequent recovery of the mother; of which the following is a summary.

J. S. aged twenty-three years, always enjoyed good health; menses profuse; was married at nineteen years of age, but no indications of conception was manifested until two years after this event: at which time menses ceased, with nausea, vomiting, &c. which continued for four months, when her situation was well ascertained. At this time, she was seized with a violent pain in the region of the uterus, and fainted for half an hour. The pain continued in the left iliac fossa, and required frequent bleedings to moderate it. She continued to increase in size, and has had, since the third month, obscure indications of the fœtal movements. At the seventh month, a leucorrhœa appeared. During the eighth and ninth months had glairy discharges per vaginam; while the mammæ filled with milk. At the end of the ninth month labour pains supervened, but nothing was discharged. They continued so severe that her system was debilitated and life despaired of, until at the end of the tenth month, a mole, or hydatid, was expelled from the uterus, of the size of a pullet's egg, but long and flattened; some relief was now obtained. At the twelfth month a second mole, smaller than the first, was rejected from the uterus. At this time a small, deep-seated tumour appeared near the umbilicus, which enlarged, formed an abscess, and, at the fifteenth month, opened internally, about two lines below the navel. Much matter was discharged, with relief of pain and diminution of the abdominal swelling. A fistula resulted, the menses did not appear, and the leucorrhœa continued, the patient regaining some health and strength. On the first of December, 1824, and in the twenty-fifth month after conception, she entered the hospital, and came under the care of M. Lalanne, who discovered the remains of a fœtus in the cyst. The fistulous orifice was dilated by sponge tents, and in fifteen days, the bones of a full-grown fœtus were extracted. By the 27th of December, the cyst was emptied of foreign matter, and much diminished in size. It continues to decrease, and now the whole is nearly well, the patient's health improving, but the leucorrhœa yet continues and the menses have not re-appeared.

Dr. Lalanne would infer, that the impregnated vesicle remained in the ovary, or was arrested in one of the fallopian tubes; that at the fourth month the exterior envelope was ruptured, and the ovum fell into the cavity of the peritoneum, where it contracted new adhesions, and continued to increase to the ninth month, at which time labour pains were excited; first, by "the sympathy of relation of the uterus with the cyst, enclosing the product of conception," and 2ndly, by the presence of the mole or hydatid in the uterus; that the abscess resulted after the cyst of the fœtus had contracted adhesion; and that the inflammation of the cyst, excited by the putrefaction of the fœtus, would affect more particularly the points of adhe-

sion, and hence, the subsequent abscess would here form and open externally; and finally, that the leucorrhœa occurring at the seventh month, was a substitute for the menses, which were formerly very abundant.—*Annales de la Med. Phys., Juillet*, 1825.

78. *Prolapsus Uteri.*—M. Gerardin has recently proposed a radical cure for this affection, the principle of which is to effect an obliteration of the vagina.—*London Med. Repos. & Rev., Sep.* 1825.

79. *Laceration of the Perinæum.*—A case is communicated by M. Gravis, docteur chirurgien des mines d'Anzin, and by M. Lebrun, member of several medical societies, of a female, aged nineteen years, who was delivered of her first child through a rupture of the posterior part of the vagina, and the perinæum, *the fourchette and the margin of the anus remaining entire.* She was not examined by the above named surgeons until the tenth day; means were then taken to subdue the inflammation; sutures were afterwards passed, merely through the *external parts*, and in ten days all was well, excepting a small fistulous opening near the rectum, which did finally close in two months.—*Annales de la Med. Physiologique, July*, 1825.

CHEMISTRY AND PHARMACY.

80. *Application of solutions of neutral salts to vegetable analysis.*—M. Robinet has made some interesting observations on the peculiar solvent powers of different saturated saline solutions, and proposes to employ them in the delicate processes of vegetable analysis. Applying his method to opium, it would appear that he has made the unexpected discovery, that the morphia in this drug is united to a peculiar acid, different from the meconic; while the meconic acid in reality exists in it as a super-meconate of *soda.*

It appears also that M. Robinet has ascertained some additional properties belonging to morphia. Among others, he states, that it possesses the peculiar characters of becoming blue by the action of the persalts of iron, and of being precipitated, in all its saline combinations, by the muriate of platinum.—*Journal de Pharmacie, Aug.* 1825.

81. *Preparation of sulphate of soda from sea-water.*—Mr. Daniel B. Smith, Chemist of this city, has published some interesting observations on the extraction of sulphate of soda from sea-water, the source of nearly all the Glauber's salt consumed in the United States. The subject is curious, because the best chemical authorities are silent on this source for the preparation of the salt in question.

Sea-water is known to contain, (not to mention lime,) sulphuric acid, magnesia, muriatic acid and soda; for we shall consider, for the sake of the explanation, that chloride of sodium or common salt, becomes muriate of soda by solution in water. Now it is not easy to say, as Mr. Smith remarks, in what order these ingredients are combined. It is, however, certain, that, if the sea-water be evaporated in the summer season, sodium falls in com-

bination with chlorine as common salt, as a first product, and afterwards, if the evaporation be continued, sulphate of magnesia or Epsom salt. After these two saline precipitations, there is still a small excess of muriatic acid, which remains in solution, in combination with magnesia. This analysis, by evaporation in summer, accordingly, gives us chloride of sodium, sulphate of magnesia, and muriate of magnesia, and would seem to determine the order of combination.

But the binary arrangement is far otherwise, if the evaporation of the sea-water be conducted in winter, and the brine be exposed to extreme cold weather. For, under the influence of a very low temperature, the sulphuric acid, and a portion of the soda sufficient to saturate it, are found to form a crystalline deposite of sulphate of soda. This being removed, the residual solution yields in the spring a diminished quantity of common salt, and furnishes a bittern, containing a comparatively large quantity of muriate of magnesia.

Now the statement just made may be inferred from the facts communicated by Mr. SMITH. For, from information received by him from Massachusetts, where all the Glauber's salt from sea-water was manufactured, it appears that it is only during the rigorous cold of the winter in our northern States, that the formation of sulphate of soda is determined.

Assuming, as is most probable, that sulphate of magnesia naturally exists in sea-water, Mr. SMITH very satisfactorily accounts for the formation and precipitation of sulphate of soda, from the operation of two ascertained laws. The first is, that sulphate of magnesia and chloride of sodium mutually decompose each other, at a freezing temperature; the second, the very rapid decreasing rate of solubility of sulphate of soda, from diminished temperature, while the solubility of common salt undergoes little change from this cause. The first law determines the formation of sulphate of soda at the expense of part of the common salt; while the second explains its deposition in crystals.—*Journal of the Philadelphia College of Pharmacy, Dec.* 1825.

82. *Discovery of Iodine in the mineral kingdom.*—VAUQUELIN has discovered Iodine in a mineral from Brazil, containing sulphur, silver, lead and carbonate of lime.—*Journal de Pharmacie, July,* 1825.

83. *Chemical peculiarities of the Saliva discharged during ptyalism.*—Dr. BOSTOCK has recently made some experiments on saliva in the healthy state, which confirm his former results, that this secretion contains two animal substances, the one resembling coagulated albumen, being similarly affected by the action of nitric acid and potassa; the other, not affected by the agents which precipitate albumen, while it is precipitated by acetate of lead, and by certain salts of tin and silver. This latter substance may be called mucus. This analysis is further confirmed by coincident observations by BERZELIUS.

The saliva of patients, suffering under a full salivation, was found to

differ from the healthy secretion, in containing, instead of mucus, uncoagulated albumen, or albumen as it exists in the serum of the blood.

After the most careful examination made with a view to detect mercury, not a trace of this metal was to be found in such saliva.

As not a particle of mercury is found in the saliva flowing during ptyalism, Dr. Bostock justly remarks, that the alteration of its nature must be produced through the medium of the system generally. Hence Dr. B. infers as probable, that the mucous secretions in every part of the body will undergo a correspondent change. This change consists in the conversion of mucous into serous or albuminous fluid.

Dr. Bostock has examined the fluid discharged from the internal surface of the stomach, in two cases of acute inflammation of that organ, and found it much more albuminous or serous than in its natural state. With respect to the urine, it is known that this secretion, in a morbid state, frequently contains albumen, and its presence is usually understood to be indicative of an inflammatory state of the sanguiferous system.

Viewing these facts, Dr. Bostock makes the following query: Whether we may venture to generalize so far as to refer to the same specific action, the influence of mercury on the salivary glands, the alteration in the mucous secretion of the stomach during inflammation, and the production of albuminous urine in peculiar conditions of the system.—*Medico-Chirurgical Transactions, Vol. XIII—Part I.*

The views of Dr. Bostock receive support from the circumstance, that the action of mercury is productive of albuminous urine. See Blackall on Dropsies.

84. *Emetic principle of the Asclepias Vincetoxicum, (tame poison.)*—M. Feneulle has lately ascertained, by analysis, that the emetic principle of this plant is peculiar, being different from emetin, discovered in ipecacuanha and certain species of violets.—*Journal de Pharmacie, July*, 1825.

85. *Comparative activity of Tartarized Antimony, as prepared by different formulæ.*—M. Henry, Sen. has ascertained, experimentally, the several quantities of sulphuret of antimony, precipitated by sulphuretted hydrogen from a given weight of various specimens of unpurified tartar emetic, and compared these amounts with the quantity precipitated from a very pure tartar emetic, as a standard.

Two parts of the standard preparation gave of sulphuret of antimony	1.04 parts.
While the same quantity of tartar emetic, according to the	
London Phar. gave	0.98
Dublin	1.00
Edinburgh	0.99
Paris Codex, (with glass of antimony)	0.68
Mr. Phillip's formula	0.74

All these preparations, however, when well purified, contain the same quantity of protoxide of antimony.—*Ib.*

QUARTERLY NOTICE

OF

NEW MEDICAL PUBLICATIONS.

A Treatise on the Physical and Medical Treatment of Children. By William P. Dewees, M. D., Member of the Philosophical Society of Philadelphia, and of the Philadelphia Medical Society, Lecturer on Midwifery, &c. Philadelphia. H. C. Carey & I. Lea. 1825. pp. xiv. 496.

On the utility of County Medical Institutions. An Introductory Lecture, delivered at the College of Physicians and Surgeons of the Western District of the State of New York, December 13, 1825. By T. Romeyn Beck, M. D., Professor of the Institutes of Medicine, &c. &c. Albany, 1825.

The Medical Recorder of Original Papers and Intelligence, in Medicine and Surgery. Conducted by Samuel Calhoun, M. D., &c. October, 1825. pp. 191.

An Exposition of the Natural System of the Nerves of the human body; with a republication of the papers delivered to the Royal Society, on the subject of the Nerves. By Charles Bell, Professor of Anatomy and Surgery to the Royal College of Surgeons, &c. &c. Philadelphia. Re-published by H. C. Carey & I. Lea. 1825. With plates. pp. 165.

The Institutes and Practice of Surgery; being the outlines of a Course of Lectures. By William Gibson, M. D., Professor of Surgery in the University of Pennsylvania, Surgeon and Clinical Lecturer to the Alms-House Infirmary, &c. Vols. 2. pp. 8vo. Published by Edward Parker. Philadelphia. 1825.

The first volume of this work was published in 1824, and we are happy that the whole is at length completed. We discover in it the characteristic excellencies of Dr. Gibson's style of teaching—a chaste and perspicuous composition, and a lucid arrangement; by which the matter, seldom marked by any thing strictly original, is so presented, as to form a useful compend for students attending the Professor's lectures, and witnessing the numerous illustrations by which his course is rendered truly valuable. The work, however, is too much of an "*outline;*" it requires too much filling up, to be very useful to the practitioner of Surgery, and we must regret, that Dr. Gibson has not devoted his talents and industry to a minute and scientific investigation of Surgical diseases. There is still too much empiricism in the practice of Surgery; it is time that Anatomy and Physiology were called into greater requisition, in forming the principles and therapeutics of this branch of the healing art.

The New York Medical and Physical Journal, No. 15. Conducted by John B. Beck, M. D., Daniel L. M. Peixotto, M. D., and John Bell, M. D.

The Philadelphia Journal of the Medical and Physical Sciences. Edited by N. Chapman, M. D., W. P. Dewees, M. D., and John D. Godman, M. D. Carey & Lea. November, 1825.

Memoir on Acupuncturation; embracing a series of cases, drawn up under the inspection of M. Julius Cloquet. By M. Morand, Doctor of Medicine. Paris, 1825.

Translated from the French, by Franklin Bache, M. D. Philadelphia. Published by Robert Desilver, No. 110, Walnut Street. pp. 87.

At the present moment, when the subject of acupuncturation occupies, in so considerable a degree, the attention of the medical public in Europe, as well as in this country, the publication of the little volume, the title of which appears above, must necessarily be acceptable. It presents a concise history of the operation, and an account of the proper method of introducing the needles. But, certainly, the most interesting part of the work, is that containing the results of Mr. Julius Cloquet's experience with acupuncture in various diseases, and the detail of many remarkable cures, effected solely by means of the needles. The translation was undertaken at the suggestion of Dr. Samuel Brown, late Professor of Medicine in the Transylvania University, and is written in a very correct and neat style.

Upon the whole, we are of opinion, that the work should be in the hands of every physician. Many of our friends, and Dr. Bache in particular, have had no inconsiderable experience with acupuncture; and we have, ourselves, used it in some cases with the most decided success; so that we need not fear to recommend a trial of this means in *proper cases*, as pointed out by Dr. Morand.

Report of the Committee on Law, to the Corporation of the City of New York, on the subject of Interment within the populous parts of the City. Read and adopted, at a special meeting of said Corporation, on the 9th of June, 1825, and published by their order. New York, 1825. pp. 75.

We have introduced this very elaborate and instructive Report in the list of *Medical* publications, although, by many, its title might seem sufficient to exclude it from such a place. Our reason for so doing, is, that it treats of a point of medical police, highly interesting to every member of our profession—the dangers of city interments. If this report, in conjunction with the recent translations, in New York, of Vicq D'Azyr, are not sufficient to convince the good citizens of that City, of the propriety of their late law, prohibiting interments within its precincts, we are at a loss to know what will serve to attain that end. It were well that our Corporation should take up the consideration of the same subject.

Journal of the Philadelphia College of Pharmacy. No. 1, for December, 1825.

We are happy to announce to our readers, the appearance of the first number of the above periodical work, conducted under the auspices of the College of Pharmacy in this City. When this College was founded, several years ago, we felt satisfied, that most important benefits would accrue to a

branch of the healing art, too much neglected in this country; judging, as we did, from the zeal and acquirements of the gentlemen who co-operated in its establishment. Our expectations have been fully realized. Already have many ameliorations been effected in the usages and intercourse of apothecaries generally, in consequence of the wholesome regulations which the members of the College have imposed upon themselves. From the commencement, attention has been paid to the instruction of students of pharmacy, by means of lectures on the Materia Medica and Pharmaceutical Chemistry, by competent professors. Nothing appeared to be wanting, to complete the usefulness of the plan, but the publication of a Journal, emanating from its members. This desideratum is now supplied, by the publication now under notice; and, if we may be permitted to judge of the future work by the promise of the first number, our presage is highly favourable.

A Lecture, delivered at the opening of the Medical department of the Columbian College, in the District of Columbia, March 30, 1825. By Thomas Sewal, M. D., Professor of Anatomy and Physiology. Washington, 1825.

A Lecture, delivered at the opening of the Medical department of the Columbian College, introductory to a course on the theory and practice of Medicine. By Thomas Henderson, M. D., Professor of the theory and practice of Medicine in the Columbian College. Washington, 1825.

These two lectures were delivered at the opening of the new Medical School at Washington, last Spring. The rapidity with which institutions of this kind are forming in our country, is indicative of a love of science, and of a generous ambition; which, when properly regulated, will greatly contribute to the elevation of our professional and national character, and, at the same time, will enable us more effectually to reciprocate the daily benefits we are receiving from our European fathers in Medical Science. We sincerely wish them great success.

The Medical Formulary: being a Collection of Prescriptions, derived from the writings and practice of many of the most eminent physicians in Europe and America. To which is added, an Appendix, containing the usual Dietetic Preparations and Antidotes for Poison. The whole accompanied with a few brief pharmaceutic and medical observations. By Benjamin Ellis, M. D., Lecturer on Pharmacy. Philadelphia. Carey & Lea. 1825. pp. 148.

Of this little work, we hope to be able to furnish an analysis in our next number. Our present bounds forbid this; and we have only space to say, that it is a publication which was much wanted here, as a means not only of supplying examples of the simpler style of prescribing, which is so peculiarly American, and so successful, but of recording many fugitive formulas, to which the experience of enlightened practitioners has given an unquestionable value: while that reluctance and want of encouragement which withholds them from the press, bade fair, but for some such gleaner as this, to confine them within a limited circle, or to bury them in that grave which, one after another, becomes the dwelling-place of their inventors and employers. The "Formulary" is copious and redundant of such matter as this. The chapter on Dietetics will be welcomed. That on Poisons is so much abridged, as to be entirely useless.

An Essay on Venereal Diseases, and the uses and abuses of Mercury in their treatment. Illustrated by Drawings of the different forms of Venereal eruptions. By Richard Carmichael, M. R. I. A., &c. With Practical Notes, &c. By G. Emerson, M. D. Philadelphia. Published by Judah Dobson, (Agent,) and A. Sherman. 1825.

This is a second and much improved edition of Dr. Carmichael's Essay on Syphilis. The American editor has added many useful and interesting notes to the text; by which the work is rendered very valuable to every practitioner. We do not hesitate to recommend a careful examination of its contents.

An Introductory Lecture, delivered in the College of Physicians and Surgeons, at the opening of the Winter Session, on the 7th of November, 1825. By David Hosack, M. D., Professor of the Theory and Practice of Physic, &c. &c. in the University of the State of New York.

Dr. Hosack certainly deserves considerable credit, for the zeal he displays for the advancement of the Medical Sciences, as well as for the able manner in which the present lecture is written. The plan adopted by some of the professors in our medical schools, of publishing their introductory lectures, is certainly deserving of imitation. In this way, much interesting matter is thrown into circulation; and the lecture, if valuable, does credit, not only to the individual who has penned it, but to the school of which he is a member. At any rate, it forces the professors to give something new; and their hearers are not fatigued, at every return of the season of instruction, with the same lectures, which, by frequent repetition lose all their interest.

ERRATA.

Page 3, 24th line from bottom, for *Patten*, read *Potter*.
9, 18th line, for *clear*, read *clean*.
13, 1st line, for *as is ordinary*, read *as ordinary*.
14, 5th line from top, for *colour*, read *colon*.
16, 1st line from bottom, for *anastomosis*, read *anastomoses*.
22, 3d line from bottom, for *real collections*, read *fæcal collections*.